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Devoted to the Medical Profession

Edited by a Committee consisting of

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Some Acute Pulmonary Troubles.

By R. S. MICHEL, M. D., Professor of Internal Medicine, Chicago Clinical School.

In the changeable climate of the north temperate zone, that part of man's economy most liable to derangement is his pulmonary apparatus. We are enabled to combat the adverse conditions of an ungenerous climate in some ways; we make good warm clothing take the place of the hirsute appendage that nature vouchsafed our remote ancestors; we clothe the feet; we fortify the natural covering of the head with additional safeguards. But oxygen we must have, and we must get it from the air, whether that air is balmy as breezes that blow through the flower-laden groves of the tropics or frigid as winds that howl through the frozen pines of the semi-arctic North. Our remote ancestors were children of the tropics. Yet as far back as the Pleistocene, archeologists tell us that man had extended his habitat as far north as the British Isles. The "River Drift" man slowly retreated southward before the advancing ice cap of the glacial period. The record is written in the buried remains of his handicraft exhumed from time to time. It seems equally certain that the "Cave Men" retreated northward with the ice at the termination of the glacial, to become the remote progenitors of the modern Eskimos. Man is the only animal who endeavors to appropriate to himself all climes —a wonderful tribute to the adaptability of his organism.

Sixty-five to seventy per cent of deaths in persons over sixty—when death is produced by acute disease—are caused by pneumonia. No further statement is necessary to mark its importance. It is an acute infectious disease, coming on suddenly, and usually beginning with a well-marked chill. It never threatens. The man who goes about shivering and coughing, with a "bad cold" and thinks he is "threatened" with pneumonia, never takes it. It attacks its victims without "casting its shadow before." That it is due to the presence of a specific germ—the pneumo-bacillus, or the diplococcus—is very probable, although the matter can hardly be considered as definitely settled. Something more than the presence of the germ is required for its production. There is lowered vitality, or impaired life force. The natural power of resistance of the system is abolished, or detracted from, for the time being. Otherwise we would not be doing much in this world but having pneumonia—for the germ is one of wide distribution.

That it is not simply a "pneumonitis"—and, by the way, the term should be abandoned—is shown by the fact that it has a personality all its own. A pneumonitis may be caused by inhaling steam, irritant vapors, and so forth, but however severe the symptoms may be, they are never the symptoms of pneumonia.

It begins as an inflammation of the air cells or alveoli, which are soon completely occluded by inflammatory products, thus causing that part of the lung affected to be solid for the time being. It is considerably more apt to affect the right lung than the left, and usually the lower lobe. No reason for this is known, unless it is because of the manner in which the trachea bifurcates to form the primitive bronchi. This arrangement is such that foreign bodies more readily enter the right bronchus.

The filling up of the lung with effused material is the period of invasion, and lasts from two to three days. Then there is present the stage of red hepatization. This stage lasts from three to five days, or somewhat longer. During this time the lung tissue is impervious to air, not only the air cells being filled up, but the smaller ramifications of the bronchi. The lung, if cut, presents very much the appearance of liver tissue, except in color. It is red. Many patients perish during this stage. The system is thoroughly impregnated with the toxin, and the heart, a part of the pulmonary circulation being destroyed, is laboring under great difficulties.

To fully appreciate the difficulties under

which the heart labors, we must bear in mind that the total quantity of blood passes through both the systemic and pulmonary circulation three times per minute; also that the cycles are entirely separate and must act in harmony. In the heart of a reptile, or amphibian, there is one common ventricle, into which the blood is emptied from the right and left auricles. When the ventricle contracts, the blood is thrown a part into the pulmonary circulation, and a part into the systemic circulation. What one cannot accommodate, the other can. This arrangement exists to a greater or less extent in many of the lower forms of life. It is also present in the human species, by reason of the foramen ovale, prior to birth. But with the complete double circulation there is no opportunity for the pulmonary circle to evade any part of its duty. There is imperfect oxygenation of the blood. The vital forces may rapidly flag. Usually, however, in four or five days there are signs of improvement. The period of red hepatization merges into the period of gray hepatization. This is often spoken of as the "crisis." My observation is that this process is rather a gradual than a sudden one. The classical crisis of medical authors is rare. The homogeneous red color of the consolidated lung slowly changes, fading out of certain areas and assuming a darker tint over others. Gray hepatization may last for five or six days. I believe it generally lasts much longer. It is difficult to say when it entirely vanishes. Only a small part of the inflammatory product is expectorated. By far the larger part is taken up by the vessels and thrown off through the emunctories of the body. You could hardly expect a large area of consolidated lung to be cleared up in five or six days with every vital function at its lowest ebb.

Frequently there is delayed resolution. The hepatized lung, instead of being cleared up, becomes the seat of a large abscess, or of several smaller ones. This happens because the circulation is impeded or destroyed in the solidified tissue, just as a large tumor breaks down in the center when it outgrows its blood supply. I think this happens much more frequently than is commonly supposed.

A typical case of pneumonia is unmistakable. The sudden onset, the chill, the peculiar dusky flush on the cheek, the hurried breathing, the cough, and, above all, the bloody expectoration, render the diagnosis easy.

But, unfortunately, it is not always so evident. In the very young and the aged we may hesitate. In the old, death may supervene before the disease has time to put on its characteristic aspect. This is also the case in alcoholics, whose power of resistance is very slight. These cases should be managed with redoubled vigilance, energy and care.

Very much more frequent than pneumonia is bronchitis. By reason of certain atmospheric conditions, or of sudden and unfavorable climatic changes, the delicate mucous lining of the bronchi becomes inflamed. What is worse, these conditions or changes temporarily impair or abolish the respiratory action of the skin, thus increasing the mischief.

This disease does not present the dullness on percussion, the condition does not seem so serious, and there has been no initiative chill. Occasionally, however, it must be remembered that the area of dullness of a pneumonic lung does not approach the surface. The diagnosis in these rare cases may be difficult. Bronchitis frequently complicates other diseases. It is present in measles and whooping-cough. Sometimes the complication overshadows in importance the original disease. It is a frequent cause of fatality in whooping-cough. With bronchitis is often associated trachitis or laryngitis. This would be expected from continuity of tissue.

Capillary bronchitis usually affects old persons, and very young children. Usually commencing as an ordinary bronchitis, the inflammation spreads by continuity of tissue to the capillary bronchi. The caliber of these tubes being small, but little turgescence of their walls is necessary to completely occlude them. The symptoms are very urgent. Dyspnea is great; prostration is extreme. There is cyanosis of mucous membrane and skin. The air cells are usually intact, and do not share in the inflammation. But the air is prevented from gaining access to them almost as effectually as if a plug was driven into the larynx. If the patient lives long enough, air cells over limited areas collapse, because the contained air is absorbed, and none can enter. The name "suffocative catarrh" is peculiarly applicable. This disease is the most fatal, the most rebellious to treatment, and

the most frequently overlooked of all acute pulmonary affections. The diagnosis, when made at all, is frequently made post-mortem, to the chagrin of the physician and the discredit of the profession. It is a matter of regret that so little can be done for it in a therapeutic way, but we should always be on the alert and recognize it, if possible. The bronchial râles are widely distributed and become finer and finer at each subsequent examination, because the inflammation is spreading to the smaller tubes. In the meantime, the symptoms become very alarming. There is great dyspnea, cyanosis and restlessness; often convulsions, if a child; coma, if an old person. The disease is often a sequel to, or accompanies some other disease, as measles, or whooping-cough, especially the latter. In very old people it is even more common than in children, and the patient is often moribund before the physician is called. With advancing years the power to resist pneumonia diminishes, and so also with suffocative catarrh. A slight "cold" that is not much heeded may suddenly develop alarming symptoms in the aged. Dr. Stille used to say, "Never make light of a disease, for you know not what turn it may take." This especially applies to the "colds" of old persons.

Second only to pneumonia in frequency and importance among diseases of this class is pleurisy. It is useless to burden an already complicated subject with unnecessarily fine discrimination in classification. In pleurisy classification is arbitrary at best. It may be dry or with effusion; serous or purulent; acute or chronic; primary or secondary to some other disease. It may belong to one variety at one time and to another variety at a later period. A serous effusion long retained may become purulent or gelatinous.

The first effect of the inflammation is to congest the pleural membrane. As the condition progresses there is an exudation of lymph. This is the first stage. There is pain at every respiration from rubbing together of inflamed surfaces. Pain is referred to the region of the nipple or to the axillary line, and is often severe. Respiration is shallow and frequent. The patient leans toward the affected side and endeavors to restrain the cough, which greatly aggravates his pain. Some fever is present, but it is not high. Often the disease does not progress beyond this point. Inflammation subsides and the vivified surfaces unite. Post-mortem observations show this often occurs, sometimes repeatedly in the same subject. When this occurs the function of the lung may be impaired because of restricted motion. Anything that lessens the free motion of the respiratory act predisposes to tuberculosis. But the inflamed membrane may secrete fluid, frequently to a large amount, pressing the lung back and upward against the spine and displacing the heart or liver. When there is an effusion at all it is usually a large one. The whole side seems swollen; the intercostal spaces are effaced. This constitutes the second stage. The physical signs found will depend upon the stage in which the examination is made. The characteristic sign of the first stage is the peculiar "stitch" in the side. A friction sound will probably be present, and will be heard at the end of inspiration. As the effusion takes place, the inflamed surfaces are separated. Hence the friction sound disappears and the pain vanishes. Cough and fever persist for a time longer. Upon percussion there is complete dullness over the seat of the effusion, with somewhat increased percussion note over the other lung due to compensatory emphysema. The symptoms of the first stage may be so slight and the effusion so rapidly produced that the patient is seen for the first time after the effusion is of enormous extent. We should be so careful of our examination of chest cases, as not to overlook these large effusions. This is a mistake that is often made.

The disease with which acute pleurisy is most likely to be confounded is pneumonia. They are both usually one-sided and affect the base of the lung; and in both, effusion having taken place in pleurisy, there is dullness on percussion. The most important point of distinction is the position of the apex beat of the heart. In pneumonia it is never displaced. If the effusion in pleurisy is abundant, it is always displaced, unless displacement is prevented by adhesions. Cough is dry in one, accompanied by bloody expectoration in the other. In pneumonia fever is high; in pleurisy not high. By carefully weighing the symptoms a correct diagnosis can be made.

Unless the pressure symptoms are urgent we should not aspirate an acute case

too soon. At the end of three weeks the inflammation will have subsided, and the pleural surfaces, when they come together, will not unite. A union between the costal and pulmonary pleura is by all means to be avoided. Should it be necessary to tap earlier to relieve symptoms, remove only enough fluid to attain that end, leaving enough to prevent adhesions. The tapping should be done in the axillary line, and the diagnosis should be rendered certain, at the time of the operation, by the use of the hypodermic needle, before the large aspirator needle is inserted. When the proper time comes always remove these effusions by operative means. Never trust nature to remove them. A large collection of fluid so paralyzes the absorbents that restitution will not take place. The case will become a chronic one if left to nature. The operation of paracentesis should be done in a throughly aseptic way, for if it is not, a serous effusion may be changed into a purulent one. If germs are introduced by means of the needle they will utilize what fluid is left as a culture medium. It is often necessary to tap several times before nature is able to assert herself. Rather free catharsis should be maintained by means of the salines or the compound powder oi jalap. If the effusion is purulent, make an incision between the ribs large enough to insert a drainage tube. Large cavities in very chronic cases are obliterated by a sinking in of the chest wall. To secure this end several ribs may be severed, thus allowing them the more readily to fall in. Many cases are of tuberculous origin and should be treated as are tuberculosis conditions elsewhere.

Very early in pneumonia it is good treatment to cause free catharsis by means of calomel, free diaphoresis by giving five grains of acetanilid with a fourth grain of morphia, and counter-irritation by means of mustard. The mustard should be finely and freshly ground, mixed with a little flour and made into a paste with warm water. The application should not be continued long at a time (ten or fifteen minutes), as intense redness of the skin soon appears. But the application should be repeated often enough to maintain the counter-irritation almost up to the point of producing a blister. This treatment is of no use unless applied early, in which case it may abort or mitigate an attack. In the second stage the indication is to sustain the patient's strength and guard against sudden death from heart failure. Give good nourishing diet, as milk, eggs, rare steak or oysters. The stomach usually retains food well and digests it. Pay more attention to this and the nursing than to anything else. Do not trust either to careless or incompetents hands. Give strychnia to sustain the heart, from the fortieth to the twentieth of a grain, every two to four hours, depending upon circumstances. Be sure to give enough. Hot whisky and water, freely administered, will aid in tiding the patient past the danger point. Do not bleed. If the circulatory system is too full, it is serum you want to abstract, not corpuscles. You can secure this end through the medium of the bowels. Oxygen should be administered if there is cyanosis, or if the heart seems likely to stop. When given it should be given freely—a fourth of the time or more. Expectorant mixtures do but little good.

To relieve the cough, morphia may be given in small doses, or codein. Codein is an uncertain agent, and for that reason morphia is to be preferred. Senega and prunus virginiana are good tonic expectorants. Other agents that will be useful are quinia, camphor and ammonia muriate. Nothing should be given that will depress the nervous system. All depressing influences and surroundings should be avoided.

Compound solution of iodine (Lugol's solution) diluted with water and used externally, is useful in delayed resolution. It should be freely painted over the affected side.

The whole treatment from beginning to end should be supportive.

689 N. Robey street.

Intestinal Obstruction.

By EDWARD L. MOORHEAD, A. M., M. D., President of the Medical Board and Attending Surgeon Cook County Hospital; Professor of Gynecology Chicago Clinical School; Clinical Assistant Professor Gynecology Rush Medical, etc.

It is rather a rare occurrence for one to have in a single week three cases of intestinal obstruction, all of a different character from a pathological standpoint.

Intestinal obstruction properly includes

all cases where there is an interference with the passage of the intestinal contents, whether it be due to twisting, intussusception, internal hernia, strangulation by bands of adhesions, stricture or impaction. The case may be acute, the symptoms coming on suddenly without warning, there being vomiting, pain and collapse, the vomiting early becoming fecal and the patient dies from exhaustion, or as a result of the intestine becoming quickly gangrenous.

In the chronic cases the onset of the symptoms is more gradual; there may be a history of mild attacks which have been relieved, until finally complete obstruction occurs.

Acute obstruction is generally caused by volvulus, intussusception, internal hernia, strangulation by bands, impaction of feces, or sudden obstruction due to gall stones.

Chronic obstruction is generally due to stricture from different causes, loss of muscular power and accumulation of feces, or chronic intussusception.

In the report of the following three cases I will merely give the clinical history of each, and such few remarks as may seem necessary for a lucid explanation of the subject in hand.

Case I: Miss Ada G., aet. 14 years, colored; school girl. Tuberculosis of cæcum and vermiform appendix. Resection of cæcum and end-to-end anastomosis of ileum and ascending colon. Recovery.

Admitted August 15, 1898.

Family history: Father living and healthy. Mother died several years ago of some unknown cause; did not have consumption; died in childbirth. One brother died at nine months of summer complaint; one sister at four years of diphtheria; one brother at seven years of quick consumption; no brothers or sisters now living. One of mother's brothers had scrofula; one of mother's sisters died of consumption. Father has two healthy brothers; one sister died, cause unknown; mother never had a miscarriage. No specific history. Family history otherwise unknown.

Personal history: Whooping-cough when very young; mumps some years ago; measles about four years ago; has been otherwise always healthy, except for some slight stomach troubles. Has never had cough or been bothered by colds. Has never menstruated.

Present condition: Began during the winter to have slight "cramps" in the abdomen, which always ended in the right iliac region. These were of a recurrent and somewhat periodic nature; at first not frequent, later coming three or four times a week. Patient states that these "cramps" would continue ten or fifteen minutes at a time, and with frequent repetitions during each attack at intervals of ten or fifteen minutes. They would frequently, during the latter part of the winter, be accompanied by vomiting, especially when they become somewhat more frequent. At about this time she noticed "lumps" in the abdomen. These would accompany the "cramps" and disappear with them. At first there was but one below the umbilicus; later several, then many, movable and large. At the same time there was "rumbling" heard by the patient.

During the last two weeks the "cramps" have been almost constant, always referring themselves finally to the right iliac region. Has much vomiting, but no chills or fever of which she knows. Bowels irregular at all times. Has lost much flesh, especially of late. Says that last October she weighed 102 pounds; judging from her appearance she cannot now weigh more than 75 or 80 pounds. Was treated for many different conditions, mostly "indigestion;" finally the case was diagnosed as appendicitis and sent to the hospital for operation.

Examination: General nourishment very poor; tongue lightly coated, yellowish; chest negative; teeth negative. Abdomen, on examination, shows changeable distention of intestinal loops, as peristalsis proceeds; this action is also plainly palpable. There is tenderness in the lower abdomen, most marked in right iliac region, and when asked to place one finger on the most tender point it is placed at or very near McBurney's point. Situated just above and outward from McBurney's point, with its border beneath, is a firm, tender mass about the size of a hen's egg. This mass can be quite distinctly outlined with the fingers and is apparently free from all connection with the abdominal wall in front.

Inguinal, axillary, cervical and epitrochlar glands not palpable.

Operation: August 16, at 10:30 a. m., Dr. Moorhead operating, assisted by internes Habhigger, Crowder and McEwen.

After thorough sterilization of the abdomen an incision was made, 3½ inches long,

passing through McBurney's point, in the direction of the fibers of the external oblique muscle. There were no adhesions to the abdominal wall. Abdominal exploration reveals an indurated mass occupying the cæcal region, and about the size of a large hen's egg. This was brought forward into the wound with considerable difficulty and was then found to involve the entire circumference of the bowel. The ilium was dilated to the size of the colon, 1½ inches in diameter, and was thickened and covered with a number of round or oval spots of concentric arrangement, measuring in diameter from a pinhead to that of a pea. Peritoneal surface slightly roughened and only slightly discolored at these points.

The bowel at the sight of the mass was incised lengthwise, and a digital examination of the interior of the same revealed a very marked narrowing of the lumen and roughening of the mucosa, the lumen at the ilio-cæcal valve being about the size of a lead pencil. The bowel wall was thickened to at least one-half inch, firm and resistant to the knife. In the center appeared a tendency to breaking down and necrosis. Lymphatic glands lying close to the bowel were enlarged and of a whitish color.

The cæcum was loosened from its attachments posteriorly by the fingers. A strong band was observed which passed from the top of the cæcum to the pelvic facia at the pelvic brim, and by traction on this band the right tube and ovary can be exposed, this band being the altered appendix. This was ligated with catgut and divided. The ascending colon was then brought down and the intestinal clamp applied after emptying the cavity of its contents by expression into the bowel above. The lower ilium was similarly treated.

The bowel was then divided 1½ inches from the clamps, at each side, and at least an inch from the seat of induration. This division is made just to the messentery and mesocolon, the latter of which is quite short.

During all cutting the parts were drawn well forward, and the abdomen protected by lap-pads wrung from sterile water. Where the bowel was cut a small amount of liquid and slightly odorous material escaped. This was immediately removed and the bowel ends cleaned down to the clamps, the hands also being disinfected before further manipulation was made.

Eight-inch clamps were put on the messentery and mesocolon, beginning at the divided bowel ends and coming together at a point, thus clamping off a V-shaped piece, the incision then being carried along these clamps from the divided bowel ends. The clamps were then removed, the bleeding points being tied. The cut edges of the messentery and mesocolon were then brought together and joined by single running sutures of fine silk passing through close to the edge, approximating closely, thus bringing the ends of the incision at the bowel exactly together.

The cut ends of the ilium and cæcum were found to be of almost the same size, the latter slightly smaller and much thinner. End-to-end anastomosis was made by a single row of interrupted Lembert sutures of fine silk, beginning at the messenteric attachment on each side and ending opposite the messentery above. The sutures were placed about three-sixteens of an inch apart and including on each side about one-fourth inch of peritoneal surface. A few extra sutures were subsequently applied where the approximation did not seem to be perfect. After another careful inspection to assure perfect hemostasis, and a thorough cleansing with sterile water, the bowel was returned to the abdominal cavity.

A drain consisting of several strands of iodoform gauze was passed down to the sutured bowel ends, and the external wound closed by a single row of silk-worm gut sutures, leaving one suture untied at the upper angle of the wound, where the drain emerges. Over all was the usual dry aseptic gauze dressing. The patient was denied all food or drink by the mouth for the first four days following the operation, rectal feeding being depended upon entirely.

Before the operation was entirely finished the patient's condition became somewhat alarming and almost a quart of the normal salt solution was injected beneath the pectoral muscles.

This case illustrates very nicely one of chronic obstruction coming on gradually, the history resembling very much that of a case of appendicitis, both in the subjective and the objective symptoms.

The section of bowel removed proved, upon microscopical examination, to be tubercular in character. I do not think that

there are many cases reported of tuberculosis of the cæcum which have been operated upon and recovered. This patient reported to me four months following the operation, with no symptoms of recurrence. Had gained considerably in flesh, weighing at that time 115 pounds. No induration could be detected at the sight of the operation. The bowels were regular and no constipation existed.

Case II: Mike G., Polish; aet. 30 years; laborer. Admitted August 17, 1898. Intestinal obstruction resulting from the reduction en masse of a strangulated inguinal hernia. Laparotomy. Recovery.

History: Patient entered the hospital in a very serious condition, with history of vomiting and absolute obstipation for three days. Radial pulse barely perceptible at intervals, ordinarily not to be detected. Talks little English and can with great difficulty be induced to answer even simple questions. Gives no more history than the above. Does not state that he has ever had a hernia.

Examination: Patient pallid and apathetic; breathing rapid, shallow and irregular; abdomen distended and tympanitic; skin of abdomen purplish, color not disappearing easily upon pressure, and not resuming itself quickly. Region of left inguinal canal slightly more prominent than right. Exploration of canal with index finger leaves hernial contents uncertain. Patient vomits a dark greenish brown semi-fluid material having a slight fecal odor.

Patient was brought at once to the clinical amphitheater, placed upon the table and anesthetized. After shaving, sterilizing and catheterizing, the abdomen was opened by a four-inch incision in the median line. The peritoneum was drawn up and sutured to the skin. A distended loop of small intestine presenting in the wound shows some congestion. By introducing two fingers I discovered a loop of intestine entering the left internal abdominal ring, one side of the loop being distended, the other collapsed and tightly constricted. The fibrinous adhesions around the loop were separated and the loop drawn out, which manipulation was followed by a gush of about two ounces of blood-stained serum.

The loop protruding through the ring shows some œdema and a reddish black color, but the peritoneal coating was intact. The loop outside the ring is not more than 1½ inches long; this does not seem to enter the canal, but is in a small hernial sack, which is apparently flattened out just beneath the peritoneum, not passing out through the opening in the muscular wall to enter the canal.

The abdominal wound was closed by a single row of silk-worm gut sutures, and an iodoform gauze drain inserted at the lower angle of the wound. The patient took the anesthetic very poorly, and about the time the loop was drawn through the ring ceased to breathe and the pulse became imperceptible; artificial respiration had to be maintained during the remainder of the operation. Later normal salt solution transfusion was made, and a very considerable amount of stimulation was necessary.

Case III: John W., Polish; laborer; aet. 30 years. Admitted August 20, 1898. Volvulus, appendicitis, laparotomy. Recovery.

Patient speaks no English and gives very indefinite history, even through an interpreter. Says that he has had absolute constipation for three days, pain in the abdomen with some vomiting. Says he has had a similar attack before, but not so severe.

Examination: Abdomen not distended, only slightly tender and most markedly so in the neighborhood of McBurney's point. Upon deep palpation slight induration is apparent there. His general condition is good.

The usual preparations being made and the anesthetic being given, an incision three inches long was made over McBurney's point. An anomalous condition was found presenting in the appendix, in that it was first directed slightly downward, then upward and outward, then downward and inward, thus crossing itself. Its length was about five inches and was firmly adherent to the cæcum, where it turned upon itself.

After separating the adhesions the meso-appendix and base were ligated with catgut; amputation was made and the stump dropped.

The intestines were found to be in a state of extreme collapse, and upon withdrawing them a volvulus about the center of the ilium was discovered. After thoroughly separating the adhesions the twisting of the bowel was easily overcome.

The wound was closed by a single row of silk-worm gut sutures and a dry dressing, without drainage, applied.

Remarks: Cases II and III illustrate very well the disadvantage the surgeon works under at times in the large charitable hospitals, owing to the poor and often inadequate histories which are obtainable from either the patient or friends.

Case II was almost pulseless when put upon the table; the abdomen distended; fecal vomiting and no history of hernia. For these reasons I made the median incision as affording in all probability the best opportunity to deal with the obstruction from whatever cause it might be.

Case III was thought to be one of appendicular origin, and the incision was made in that region; however, the twist in the bowel was found some distance from the cæcum.

Case II required a great deal of stimulation for the first twenty-four hours, but otherwise made an uninterrupted recovery.

Case III made a good recovery, without the occurrence of any special symptoms.

103 State street.

Acute Yellow Atrophy.*

By Wm. E. Quine, M. D., Professor of Medicine in the College of Physicians and Surgeons, Medical Department of University of Illinois, and in Chicago Clinical School.

Icterus gravis; malignant jaundice; hemorrhagic jaundice. Notwithstanding it is introduced under the head of local diseases, in connection with the liver, the term acute yellow atrophy has to be defined as a general toxemia, of rapidly fatal course, associated with extensive destruction of liver cells; rapid diminution in size of the organ; grave cerebral symptoms and occasional hemorrhagic tendency, and widespread fatty degeneration of the tissues of body.

Etiology: Is very imperfectly understood. It is one of the rarest diseases known. Seventy-five per cent of the cases occur between the ages of 15 and 35; 3 per cent under 10. Sixty-five or 70 per cent of the cases occur in women. Fifty per cent occur during pregnancy, and especially between the fourth and ninth month—more frequently in the sixth month than any other. Remember the liver undergoes very important changes during pregnancy.

The exciting cause, if there be a specific exciting cause, is not known. Waldier described a bacterium, which goes by his name, in connection with several cases, but it is not known that they sustain a causative or any other relationship to the disease. You will find the utmost confusion on the part of medical writers with respect to its exciting or determining cause. Harley, one of the most authoritative writers on diseases of the liver the country has produced, insists that acute yellow atrophy is nothing more or less than a sporadic yellow fever (Bartholow and Pepper). The exciting cause is probably a ptomaine that reaches the liver through the intestinal canal. This is merely a suggestion or intimation which serves well to explain the phenomena of the toxemia, but it has no solid foundation in any real facts or observations. Legg, one of the most eminent writers, intimated that it sometimes originates in profound emotional disturbance. Then, as you know, Wagner and other pathologists point out the alleged fact that its morbid anatomy is identical with, also its symptomatology, that of phosphorus poisoning, so he persists it is an example of acute phosphorus poison, and the problem left is how did it gain entrance to the body? In closing the etiolgy, let me point again to the fact that it is sometimes consecutive to the ordinary catarrhal obstructive jaundice. A patient may have a mild grade of gastro-enteric catarrh for a week or six weeks and then, without obvious reason, acute yellow atrophy bursts forth with violence, and ends in death. Two facts I wish to impress upon your minds, (1) 50 per cent of all cases are associated with pregnancy and the time of maximum liability during pregnancy is the sixth month; (2) that it is now and then consecutive to, or engrafted upon, the history of ordinary catarrhal juandice. It is high probable, indeed indubitable, that general toxemia of some kind exists, because the morbid anatomy is by no means limited to this organ, but is manifested by profound alteration of the structural and vascular supply in every part of the body. There is undoubtedly occasional toxemia, but its specific character is as yet in doubt.

Morbid Anatomy: You are to make a sharp distinction between acute yellow atrophy and acute diffuse hepatitis. Osler terms it diffuse interstitial hepatitis; Bar-

* A lecture before the Senior Class in the Medical Department, University of Illinois.

tholow and Pepper use interchangeably diffuse yellow atrophy and diffuse hepatitis. These works all through confuse the two diseases. Under the head of morbid anatomy they use the expression "that the liver is small usually, but not in all cases." The liver is small in all cases of true acute yellow atrophy, after the disease has come to be fairly established, but it is always enlarged in cases of acute diffuse hepatitis. In the incipiency, for a day or two, or possibly longer, there is very slight enlargement, due to biliary obstruction and retention of bile in the branches of the hepatic duct, but after it has come to be plainly established the liver undergoes progressive diminution in size, until at the time of death it weighs only one-third or one-half as much as normal. The substance is so soft that when removed the organ flattens out just as a bladder half filled with water would. The capsule is wrinkled and redundant; it is hyperemic, showing locations of general or occasional hemorrhagic tendency. On section it appears yellowish, but shows variations of reddish or brownish-red patches. The tissue is soft. The microscope shows extraordinary disorganization of the hepatic substance. All stages of necrosis of the hepatic cells are seen and myriads of destroyed cells are represented by fatty granular debris, through which are scattered pigment, granular leucin and tyrosin, connective tissue substance, hyperemic and infiltrated with numerous round cells. The branches of the hepatic duct show catarrhal swelling. This is true of the gall bladder, which is empty and the walls generally ecchymotic. Weidar's bacteria are found among the cellular debris of soft destroyed liver.

The spleen is enlarged and soft. The peritoneum ecchymotic and the endothelium fatty. The stomach and bowels contain more or less blackish blood. The fecal contents show a clay color. The mucous membrane of the alimentary canal is ecchymotic and the epithelium shows fatty granular degeneration. The epithelial lining of the uriniferous tubules show fatty granular degeneration. Ecchymosis is seen in the renal pelvis and through the whole tract of the genito-urinary organs. The pleura is likewise ecchymotic; the meninges of the brain and cord, and even the substance of these organs, are ecchymotic. There is fatty degeneration of the walls of the blood vessels everywhere, and these widespread changes, usually of a character of fatty degeneration, and the hemorrhagic extravasation into the substance of the organ are intermingled with widespread and strongly marked jaundice. All the tissues of the body and secretions, except the contents of the intestinal tube, are stained with bile pigment.

Symptoms: Onset is sometimes very insidious, but in the majority of instances it bursts forth with suddenness in the middle of apparently undisturbed health, or a course of simple obstructive jaundice. If insidious, it is usually associated with a catarrhal jaundice which exhibited, from one week to six weeks, no uncommon features. One of the earliest phenomena is the dilatation of the pupils, which remain so persistently, even to the close of life. This is associated with severe headache, and very marked insomnia, restlessness, jactitation. Then there is more or less mental confusion of ideas and speech, and this little by little, which possibly with great suddenness passes into delirium—of a maniacal kind. Delirium occurs in 60 per cent of all cases and passes into convulsions in 30 to 32 per cent of cases, and death—or is preceded the acute yellow atrophy. If it is Usually coma is preceded by delirium, but when acute yellow atrophy occurs in pregnancy coma may come on with great suddenness, without being preceded by delirium. Convulsions are usually preceded by delirium and coma.

There may be hyperesthesia or anesthesia—very rarely hyperesthesia occurs and also marked headache with it. Jaundice is, of course, a marked symptom, which is more strongly marked if catarrhal jaundice preceded the acute yellow atrophy. If it is strongly marked it is called "black jaundice," because the skin is of a dark brownish hue. If pregnancy and no catarrhal jaundice preceded the disease, jaundice rapidly appears, with or without the attendant phenomena of the nervous system. It may be associated with an occasional hemorrhagic tendency; ecchymosis of the skin, hematuria, vomiting and purging of blood. Hemophilia occurs nearly always as soon as the jaundice is strongly marked. On the second or third day the urine and feces are characteristic; the changes in the former have a disturbing effect on the nervous system.

The urine of acute yellow atrophy is acid in reaction; dark, great diminution in amount; prosphates and chlorides and sometimes albumen very much less than normal. It contains a great abundance ot bile pigment and also leucin and tyrosin. If the albumen is abundant, due to a nephritis, it also includes blood and blood-casts from the uriniferous tubules, and hyaline and granular casts. The stools are clay colored when not mixed with blood; if so, they are of a "tarry" color and consistency.

The temperature is exceedingly uncertain, normal or subnormal in the early stages, but toward the close of life as high as 103 to 105, and after death continuing to rise—the heat dissipation is not arrested, or greatly so, by reason of the arrest of circulation.

The pulse fluctuates between 70 and 140, even the same day or hour. Tongue is dry, glazed and furred. Sordes appear upon the teeth and gums. Breath is fetid. Typhoid state is an early development and strongly marked. There is also a disturbance of the stomach and bowels—nausea, vomiting and nearly always of blood or "black vomit." Diarrhea exists in two-thirds of cases. The liver undergoes progressive diminution in size. the rapidity so marked that it can be demonstrated with a pencil each day. Usually it is painless, but occasionally I have observed severe pain in the right hypochondrium. It is not a fact that jaundice is always the first symptom; insomnia, restlessness, jactitation, incoherent mind-speech and delirium and hebitude progressing toward coma may all exist first. Death may result in four or five days.

Duration: Dependent on that of the initial jaundice. A patient has catarrhal jaundice, say from one to ten weeks, at the end of which time the phenomena of acute yellow atrophy appears, and death results in four or five days. As the jaundice existed ten weeks, shall we say the acute yellow atrophy began with the beginning of this jaundice, or did it begin only immediately before the phenomena of the cerebral disturbance appeared? Some maintain the jaundice should be regarded as the integral element; if so, at least 90 per cent of the cases terminate in death in eight weeks. When it occurs independently of jaundice and bursts forth in pregnancy, it is from five to fifteen days.

Mode of Termination: It is one of the most fatal of all diseases. The majority of writers claim it is inevitably fatal, but some very excellent writers, including such authoritative names as literature can furnish, insist, in extremely rare instances, it terminates in recovery. Others claim the cure is an example of error in diagnosis. To say it terminates in full and complete recovery implies regeneration of hepatic cells. The great majority of cases, and the only ones I have seen, terminate in death in a very few days from the beginning of the principal initial symptoms.

Diagnosis may, in some cases, be attended with insuperable difficulty. It is not possible to say in the beginning of a catarrhal jaundice whether it will eventuate in death through acute yellow atrophy or in two, three or six weeks in complete and permanent recovery. Neither can you say in any case of ordinary obstructive jaundice whether it is, or is not, the beginning of acute yellow atrophy.

Acute Yellow Atrophy vs. Phosphorus Poisoning: The symptoms of the two are practically indistinguishable, so far as I know. Osler maintains in acute yellow atrophy the liver always contains leucin and tyrosin, and never in acute phosphorus poisoning. So an examination of the urine, if this is true, would enable you to differentiate. It is necessary for you to know with certainty, however, in the majority of instances, whether phosphorus had, or had not, been taken by the patient. The symptoms and morbid anatomy are identical, if not absolutely so, practically so.

Acute Yellow Atrophy and Sporadic Yellow Fever: Acute yellow atrophy occurs just as frequently in Chicago as in Cuba, and in Berlin as in the Gulf States, and as frequently in midwinter, and in the central zone in winter, as in the summer. Yellow fever is a disease of the tropics and occurs in the summer season. It is a febrile infection. Acute yellow atrophy is not, except in the latter stages. Yellow fever has never been known to originate or prevail after its importation, or epidemically further north than Memphis, Tenn., excepting in Revolutionary times, when it prevailed as far north as Boston and Philadelphia; but in the Mississippi Valley it has never been known in one instance to spread after importation north of Memphis. When refugees from

infested regions south arrive in Chicago and develop it, no instance of the spread of the disease in this city, or state, has ever been known to occur. Yellow fever is a disease of the tropical or sub-tropical climes. It is an epidemic and febrile disease, and thus differs from acute yellow atrophy.

Acute Yellow Atrophy vs. Atrophic Cirrhosis: Acute yellow atrophy is readily distinguishable from it. These are the only diseases of the liver attended with diminution in size. There are two varieties of cirrhosis, not clinically distinguishable, known as common cirrhosis, gin-drinker's or hobnail liver, and the other known as Glissinian cirrhosis. These are the only diseases in which the organ undergoes diminution in size. There can be no difficulty in the differentiation of these diseases. Acute yellow atrophy is an acute disease, the other cirrhosis of the liver chronic. Acute yellow atrophy is characterized by earlier marked jaundice than in the others, in which it is faint if at all. In acute yellow atrophy there is occasional hemorrhagic tendency—there is not in cirrhoris. There is every indication of acute nephritis. The urine contains free blood and blood-casts, much albumin, hyaline and granular casts and the percentage of urinary phosphates is very much less. Whereas, in uncomplicated cirrhosis the urine is quite normal. In acute yellow atrophy you will generally be able to discover evidences of acute endocarditis, or pericarditis, or both, and for the most part circulatory disturbance is absent in cirrhosis.

Prognosis is unqualifiedly unfavorable. This, notwithstanding the claims of Le Bert, Harley et al. that cases do recover. It is not to be expected that such extraordinary experiences should come in your or my life.

Treatment: In view of what has just been said, perhaps it would be the part of consistency for me to say little or nothing under the head of treatment. Every conceivable method has been inaugurated, with claim of advantage in most instances. Thus patients so affected have been cinchonized, under the impression of the physician that they were examples of malignant malarial fever. Then the homeopathic physician will give phosphorus, which has been given with much or little freedom, resulting in more rapid death. Antimony, arsenic, gold and hydrargyrum—all these have been tried because they are supposed or known to exert some influence upon the vascular supply or functional activity of the liver, yet all without avail. There is no treatment known to the medical profession; there is none advanced or stated by any physician who has ever had practical contact with the disorder.

Aloes, podophyllum or euonymus may be given in sufficient quantity to cause three or four discharges from the bowels daily. The extract of euonymus or wahoo may be given to the extent of five or ten grains daily, which will be sufficient to produce loose discharges from the bowel.

Mild cholagogues are recommended, but I see no sense in prescribing medicines to increase the activity of the function of the liver. The stools are clay colored, the bile cannot get out, there is swelling of the bile duct. I do not see any rational ground for insisting upon the administration of mild cholagogue purgatives; there is diarrhea anyway in two-thirds of all cases. Phosphate of soda is mentioned; our German friends dwell upon the assumed merits of chloride of ammonia. I have studied the operation of the phosphate of sodium and chloride of ammonia carefully in relation to their possible influence upon the liver. So far as I have been able to see, the chloride of ammonia has no effect at all, except to act on the patient's palate. It is a saline purgative only. The only treatment I know of is symptomatic treatment—allay the vomiting, diarrhea, hemorrhage, and promote elimination; but as soon as positive of your diagnosis, you are justified in making a positively unfavorable prognosis.

Prophylaxis in Diseases of the Nose and Throat.

By Dr. J. Homer Coulter, Chicago, Professor of Laryngology and Rhinology in the Chicago Clinical School and in Harvey Medical College.

The comprehensiveness of the above subject, I am well aware, precludes the possibility of covering the entire ground, or even all the important points therein, in one brief paper. I shall consequently take the liberty of eliminating certain portions of the matter, which may be, nevertheless, strictly germain to the subject. That there are many preventable pathologies in the nose

and throat, and also that many of the more ordinary conditions of this portion of the anatomy do evolute into more serious and distinctly different diseases, I apprehend will be admitted without question.

In this brief discussion I will omit any discussion of such conditions as syphilis, tuberculosis, diphtheria or the exanthemata, for the possible prophylaxis in each is a matter of such general knowledge that it constitutes the very a b c of the modern, well-informed medical student. I will at the same time omit reference to technical and tiresome details, which, at best, are mooted points with the best authorities, and my desire is to be theoretically correct if possible, but practical in any event.

In the first place, allow me to emphatically impress the fact that surgery, however nearly perfection it may be, will not cure all conditions, nor will it even always prove a prophylactic blessing; so, also, will local applications or constitutional treatment prove an ignis fatuus if universally depended upon. I am convinced that this is in a very large measure due to our lack of careful, exacting and eliminative diagnoses. I will venture the opinion that each one can measure his success largely by the self-imposed and automatic rule of exact diagnosis.

With the development of our knowledge of the physiology of the nose and throat have come, also, new ideas of the connection between the many diseases of those organs, and as well of their relative etiological importance. We have come to realize that the function of the nose is more than merely breathing and smelling. We recognize now its importance in the function of moistening and warming the inspired air, in the matter of voice and tone production, and as an avenue of communication with the various sinuses adjacent to and connecting with it. All these are most important items in the prophylaxis and in the pathology of these parts.

We recognize that impairment of drainage and ventilation are indeed most important factors pathologically in a large number of the cases coming before us, and that when thus impaired a large majority of them are amenable to surgical treatment, and that we are not only warranted in giving this relief to the immediate condition presenting, but as well in duty bound to give our patient the possible benefit of an altogether probable prophylactic measure.

The condition familiarly called "taking cold" is perhaps the most important of those which we can mention in this brief resumé. Could we certainly prevent this occurrence in the patient, no doubt a large number of the pathological conditions most frequently met with might be avoided. Hence every precautionary measure we can induce the patient to adopt, and each time we are able, by some simple surgical operation to remove, or even decrease, the tendency in the patient to "taking cold," we by so much render the patient inimical to the effects of such a condition, and, what is ofttimes much worse, its results. Recurrent colds are the little insects which kill the vine by their combined action. Clothing, either insufficient or improper, is the causal factor in so many of these cases as to be almost the paramount etiological factor in their production. Remember that too much clothing about the head and neck is even worse than insufficient, inasmuch as it produces a constant perspiration.

It is generally recognized, I apprehend, that the existence of such conditions as adenoids in children or polypi in the adult, spurs, exostoses, marked deviations or deflections, and especially sensitive areas in the nose, are important etiological factors in the tendency to "taking cold." These, however, each, without question, are amenable to surgical treatment, and consequently more need not be said, even had they no more portension of worse conditions.

While thus advocating, conscientiously and strenuously, the advantages to be gained by surgical measures, I am not unmindful of the fact that in a former paper I attempted to establish the necessity of a more conservative surgery in nose and throat diseases. While these positions may to the ordinary reader seem somewhat at variance, to the rhinologist they will not appear so, for they have each too often seen the unsatisfactory results of overdone surgery in the nose. While surgery has an invaluable part to play, and is absolutely indispensable to the highest success in the treatment of nose and throat pathologies, yet, generally speaking, conservative surgery is less to be dreaded than is heroic, both being considered as a whole.

In all patients who are professional singers or public speakers the matter of prophy-

laxis becomes a most important one, and in such instances demands our especial care and painstaking consideration. In such cases there is so much depending upon a free and open nasal passage that the removal of all obstructions, either as a prophylactic or remedial measure, becomes of paramount importance.

Invasion of the eustachian tubes is so frequently the result of infection, pneumatically produced, as to be beyond question a matter of very frequent prophylactic control. One recognizing purulency in any part of the nasal passage or upper pharynx, almost invariably turns his treatment in prophylactic channels.

The subject of diseased tonsils as a factor in the production of other and oftentimes worse conditions is such a threadbare one that I hesitate to mention it in this connection, but I am thoroughly convinced that diseased tonsils are as frequently the cause of other direct and reflex conditions as are adenoids. But there is one point in this connection that I would especially call attention to at this time, that is the methods usually adopted, even by prominent laryngologists, in the removal of diseased tonsils. It will be admitted, I apprehend, without controversy, that for each time the gland is once completely enucleated it is amputated a hundred times. I have repeatedly said that if there was one condition in which thoroughness and completeness was most emphatically demanded, and yet almost always absent, that condition is in the removal of the tonsils.

Mouth breathing, while ofttimes depending upon the conditions already referred to, does otherwise occur; but whenever it does appear it should be recognized as a most significant danger signal, and since it is never idiopathic, its peculiar importance in this connection is very evident. Whether the cause be adenoids, polypi, deflected septum, exostosis, hypertrophy of septum or turbinate, it demands prompt and thorough treatment at the hands of the rhinologist.

Heredity is not an insignificant element in this consideration, and where a scrofulous, tubercular or syphilitic taint is found, we should be most exacting in our prophylactic measures, for these are each certainly in a very considerable measure amenable to such treatment.

The condition ozena is one which the very nature of demands not alone our careful study and treatment, but should compel a rigid prophylactic course for the sake of others. The very fact, also, of its uncertain etiology should make us all the more exacting in those conditions which may possibly be etiological factors in the production of ozena. If we knew certainly that it was a condition sui generis, then we could better prescribe our prophylactic measures. With many excellent authorities claiming that it is always preceded by hypertrophy, and as many others, equally exact observers, maintaining the opposite, with some claiming it is a constitutional disease, and others that it is a local condition, it is little wonder that our ideas of prophylaxis regarding it are so limited and generic. The most generally accepted theory, however, is that it usually develops as a result of a purulent rhinitis of childhood, and I am personally convinced that did we recognize in this so prevalent and repulsive condition in children a very serious menace to their health, as well a possible forerunner of ozena, we would be more exacting in our requirements in those cases, as well as doubtless prevent many cases of a most disagreeable condition in later life.

The subject of adenoids is one of such endless and popular discussion that I avoid more than mention of the condition as one particularly within the scope of this paper. Inasmuch as the certain results are universally admitted, and the absolute and only rule of treatment is likewise a matter of popular acceptance, its importance in this connection will be recognized. Just now inflammatory conditions of Luscha's tonsil are engrossing much attention and study from rhinologists. What indications other than surgical this discussion will develop remains to be seen.

In conclusion I would say:

(1) anything which produces an alteration in the normal physiological metabolism in the mucous membrane of the nose or throat;

(2) any alteration in the nutrition of the parts;

(3) any abnormal variation in functional activity;

(4) any considerable change in the histological anatomy,

are each and all remedial, surgically or otherwise, and are therefore amenable to our prophylactic efforts in behalf of our nose and throat patients.

103 State street.

Sexual Hygiene.

(THE PHYSICIANS' CLUB OF CHICAGO.)

A regular meeting was held at Kinsley's, November 28, 1898, with Dr. John Milton Dodson in the chair.

The Effects of Malformations and Derangements in the Genital Organs of Woman on Her Sexual Appetite.

By DR. CHARLES S. BACON.

By the sexual appetite or instinct we understand not only the desire for sexual congress, but also, in its normal development, a longing to fondle and to be fondled by the attractive individual of the opposite sex, a longing which may be satisfied by the mere presence of the person, or picture, or other reminder of its object. This desire for what we might call, in the terminology of zoölogists, courtship, may exist when there is no conscious wish for sexual congress, or even in cases when cohabitation is impossible, e. g., in cases of vaginismus, or in absence of vagina. It is no doubt true that women are much more frequently satisfied with courtship than men, and it is often the case that they prefer it to sexual intercourse.

Under abnormal conditions the sexual appetite demands an unnatural gratification, such as is furnished by the practice of masturbation and by the well-known, if more rare, practices designated as homo-sexuality, fetishism, sadism, masochism, etc. In the discussion to-night, however, we have especially in mind the limited use of the terms by which it is synonymous with libido sexualis. Sexual appetite is a psychical phenomenon depending upon stimulation of certain brain centers by various factors. Its manifestation may be due to changes in the cerebral circulation, generally of a congestive nature, to abnormal substances in the blood circulation in the brain, to memory images, or those called up by the senses of sight, hearing, smell, etc., or to irritating impulses sent from the genital organs. Sexual appetite, a psychical condition, is to be distinguished from the phenomenon of erection, which is of purely reflex nature. The non-genital factors are very important. A great factor in increasing sexual appetite is environment, which includes not only occupation, climate, etc., but also the association with lewd company or the use of lascivious pictures and literature. Environment may also exert a restraining influence and inhibit the development of normal as well as abnormal sexual appetite. These factors, however, will not be considered. Our attention will be confined to the effect on sexual appetite of stimulation proceeding from the genital organs. The sexual appetite may be increased, decreased or perverted. The increase includes all degrees, from the normal to extreme nymphomania. Th decrease includes the stages from normal to absence. Perversion includes homo-sexuality, fetishism, sadism and the desire for masturbation.

The difficulties in the way of finding reliable data for scientific conclusions, especially concerning the decrease of the normal sexual appetite, are great and not easily overcome. First, the subject is a delicate one, and, secondly, patients are often unable to furnish accurate statements. Cases of increased or perverted sexual appetite are more easily observed, and data more readily obtained. In general, however, we must say that our knowledge is limited to the most obvious facts. A priori, from the structure of the parts, we should expect that any abnormality of the genital organs in the inherited or acquired would cause a change in the normal sexual instinct. The most noticeable anatomical facts are: 1. The abundance of delicate sensory nerve-endings in the region of the clitoris and bulb, including the end bulbs and Paccinian and Meissner corpuscles. 2. The abundance of erectile tissue, not only in the clitoris and bulb, but also in the cervix. 3. The free distribution of the sympathetic nerves. 4. These facts imply an intimate relation between sensory organs and the vascular system controlled by the sympathetic nerves. If the vessels are first dilated by changes in the brain centers, the sensitiveness of the peripheral sensory organs will result from the increased vascularity. If the centripetal nerves are first stimulated, increased vascularity will occur, which will still further increase the sensitiveness of the sensation-bearing nerves. Hence it would seem very probable that changes in the structure of the genital organs, resulting in changes in the vascular or nervous mechanisms, would cause disturbances in the sexual appetite, a conclusion amply confirmed by clinical facts.

Before speaking more in detail of the effect of malformations and derangements, it

would be desirable to consider the normal condition of the sexual appetite in the different periods of life, i. e., before puberty, between the beginning of puberty and the menopause, and after the menopause, and also during menstruation and pregnancy. I can give only very brief generalizations.

Before puberty there is no true sexual appetite. It is a fact that the girl shows certain traits or instincts which differ from those of the boy, but as they do not indicate a special desire even for courtship by the other sex, these instincts can hardly be designated sexual appetite. It should be remembered, however, that the period of puberty does not come on suddenly, and is not ushered in by the beginning of menstruation. It begins with the commencement of the growth of the genital organs and the breasts and precedes by months, or sometimes years, the first menstruation. The sexual appetite begins also gradually and synchronously with the beginning of the pubertal changes.

After the menopause it is probable that in the majority of cases the sexual appetite continues for a few years and gradually disappears. It is often stronger for some time than during the menstrual life period, perhaps because of the cessation of the disturbances growing out of painful menstruation. During the menstrual life period the sexual appetite undoubtedly varies in intensity in the same individual, and that these variations are cyclical. Yet it by no means follows that these cyclic changes are coincident with or produced by menstruation.

The similarity between the phenomena of rutting and menstruation is no longer generally believed in. Menstruation and ovulation are frequently not synchronous. It sometimes happens that there are normally two or more cycles of sexual excitement in one lunaria, like what sometimes occurs in the continent male when similar cycles, manifested by two or more nocturnal emissions, occur in the same period. On the other hand, the period of sexual excitability may come around only once in two or three months, although the menstruation may be regular every twenty-eight days.

There seems to be no data founded upon observation for thinking that the cycles of sexual excitement coincide with those of menstruation. From clinical experience it can only be said that libido sexualis varies in different individuals during menstruation. While in some cases it is increased, perhaps, because of the increased pelvic congestion or from irritation of the sensory nerves by the menstrual discharge, in the majority of cases it is not only not increased to correspond to the height of the libidinous cycle, but it is diminished because of the pain or feeling of unpleasant pressure which exists at this time, and which has given origin to the designation of molimen, or time of being unwell. During pregnancy the libidinous cycles may continue even into the later months, and I think it is not very uncommon that the sexual desire is as strong as during the non-pregnant condition.

Let us now proceed to consider more in detail our subject and take up first the effect on the sexual appetite of malformations of the genital organs. The malformations may be due to lack of development, hyperplasia, or excessive development of hyperplasia. In cases of retarded development it is seldom that one organ alone is concerned. A rudimentary uterus is usually associated with rudimentary tubes and ovaries. Beginning with the ovaries, it is very rare that we find an entire absence of these organs, and if this condition has ever occurred, I do not know that any facts were obtained concerning the condition of the sexual appetite.

Hyperplasia of the ovaries is not so uncommon. It may be associated with scanty or total lack of menstruation. In two or three cases of this kind there was no apparent diminution in the sexual appetite.

Entire absence of uterus and tubes is also perhaps never met with. Cases of disturbed development of these organs, such as cases of uterus bipartus, bicornis, fetalis, etc., are associated with hyperplasia of the vascular system. Yet so far as I have been able to learn, there is no marked decrease in the sexual appetite. In one case of my own, where there was also entire absence of the vagina, this was true. The frequent cases where the urethra is used for copulation in the absence of vagina seems also to denote the presence of the sexual libido.

While a rudimentary condition of the internal genital organs is not therefore associated with absence of sexual appetite, contrary to what might be expected, yet the case seems to be different when the ex-

ternal genitals are concerned, to say nothing of the mons veneris, which is one of the most notable signs of puberty, and which may be rudimentary in cases where the sexuality is little developed. The condition of the clitoris and its prepuce may be more particularly considered, because these parts have been the subject of more study. The only abnormality that I will mention here is the condition called adhesion of the prepuce or hooded clitoris. As is well known, the labia minora divides into two folds, the lower of which is attached to the V-shaped depression in the under surface of the clitoris, forming the frenulum. The upper poles unite to form the prepuce. When the free edges of the upper and lower folds are in contact and adhere, the clitoris is completely covered, and here Morris has found that the under surface of the prepuce and its continguous underlying surface are often denuded of epithelium in patches of greater or less extent. The result may be that the prepuce and clitoris cannot grow, and the delicate sensory nerve and organs probably remain morphologically and functionally rudimentary. The a priori probability that a state of aneroticism would be associated with this abnormality, Bernhardi and others claim to have proved a fact by operating on women who before the operation had little sexual desire and never an orgasm, while they afterward had much increased sexual appetite and found that intercourse terminated normally. Morris claims that while in very few negresses the prepuce is adherent, this condition is found in about 80 per cent of women of the Caucasian race. Although slight adhesions are no doubt unimportant, there can be no question, I think, that complete incarceration of the clitoris by a rudimentary adherent prepuce may cause a decided retardation in the development of the sexual instinct. Another effect of adhesion of the prepuce is the irritation caused by the retained smegma secretion. Sometimes quite large masses may be found. These lead to irritation, which may be the first occasion for the formation of the practice of masturbation. As is well known, this practice often begins in young girls, even in those only one or two years old. Numerous cases have been reported where this habit was cured by releasing the adhesions and removing the irritating masses.

Nothing is known about the effects of the increased development of the internal genitals on the sexual appetite. It is very probable that a hyperplasia of the clitoris, bulb, labia and mons are associated with increase of the libido sexualis.

In considering the derangements of the sexual organs we may first consider the effect of removing the ovaries. The removal of an ovary, or the partial removal of both, has, so far as I know, no effect. The complete removal of both ovaries brings on an artificial menopause, and this may after some time bring on a gradual loss of the sexual desires. But the removed ovaries may have been so diseased and painful that all sexual desires were destroyed, and the relief from pain after the operation may cause a great increase in sexual desire. Removal of the diseased uterus or tubes with retention of normal ovaries does not generally, I think, destroy the sexual appetite, but may increase it. Removal of the clitoris for tumor or for any other cause does not always destroy sexual appetite, for the sensory pudic nerve, the chief sensory nerve, is also distributed to the bulb and vulva, yet it no doubt has some effect in lessening sexual desire and interfering with the normal completion of the sexual act.

The most important derangements of the genital organs are those which result from infection, and the chief infection is gonorrheal. The acute stage of this infection in the woman, if confined to the external genitals and the cervix, is usually short, and may be but little noticed. The soreness about the vulva, with its attendant feeling of discomfort, may cause a temporary aversion for the other sex. Chronic gonorrhea is characterized by two features, congestion and discharge. If the discharge is not too caustic, so as to cause erosion, it may lead to a constant stimulation to the vulvar and clitoridal nerves and be one of the causes of a pruritus. This often leads to masturbation, and in some cases even to nymphomania. Chronic gonorrhea of the tubes with pyosalpinx is generally combined with local peritonitis and is more or less painful, so that the sexual appetite is often destroyed or inhibited. Other forms of infection are like gonorrheal infection in their effects. If they result in conditions like abscess or exudate that cause much pain, they decrease the sexual appetite but if they cause a mild superficial and local stimulation they may lead to an increased or perverted sexual appetite. The

same may be said of other derangements like kraurosis vulvæ, pruritus, new growths, etc. In general, we may sum up by saying that abnormalities, either congenital or acquired, which lead to increased vascularity, not too great and not too painful, increase sexual appetite, or cause perverted manifestations; but if they cause pain, they may destroy or inhibit it. Congenital or acquired abnormalities, which cause permanent cessation of menstruation, generally in time decrease sexual appetite.

Sexual Desire as Influenced by Religious and Other Emotions.

By GEORGE F. BUTLER, M. D., Chicago.

"The animating impulse," quoting from Clifford Howard, "of all organic life is the sexual instinct. It is that which underlies the struggle for existence in the animal world, and is the source of all human endeavor and emotion. That affinity which draws the two sexes together for the purpose of uniting in the production of a new being—that overmastering, unanswered impulse—is the most powertul factor in all that pertains to the human race, and has ever been the cause and the subject of man's most exalted thought.

"There is an intimate and unavoidable relationship existing between the mind and the sexual instinct, and were men deprived of this instinct, all ambition, endeavor and affection, all poetry, art and religion—in short, all the emotions and achievements inspired by what we term love would cease, and the world would become cold and passionless; destitute of sentiment or aspiration, devoid of any incentive to progress or energy; while the intricate and reciprocal machinery of human society, robbed of its motive force, would come to a stop and crumble away in hopeless disorganization."

It is universally admitted that love is the animating spirit of the world; and what is love but a manifestation of the sexual instinct?

Marion Crawford wisely observes, "There can be passion without love—there can be no love without passion"—so intimately associated are the sweetest and noblest and the most carnal emotions of the human mind. Hawthorne, in an unpublished note, compared purity to an onion. We strip off the outer husk, then layer after layer, thinking to get the real substance, until, behold! the substance is gone. The subtlety of the metaphor is characteristic of the author's spiritual perception. The dividing line between chaste and holy love and animal lust seems to be clearly drawn; yet the demarkation is so readily modified by complications arising from heredity, temperament, and desire, as to be often evanescent.

"When the sex passion becomes divorced from the expression of true love, and is used as an end in itself—the mere production of pleasure—then the highest capacity for love seems to fade away. The person who cultivates passion as an end loses the capacity for love in all its higher forms. While passion is an element of love, the abuse of passion dries up the sources of love. It is in the family that love is to be developed. The family is love's kindergarten. The world is love's school. Sexual impurity blasts capacity for love." "Unto the pure all things are pure." Surely in the range of poetry there are no chaster emotions portrayed than in the immoral verses of the poet, Shelly. Yet in "The Revolt of Islam" may be found a literal transcript of the most exquisite sensations accompanying the human orgasm. It is simply impossible for a pure mind to peruse these eloquent stanzas without sentiments of unaffected reverence. Contrast with this exalted expression of divine love the meretricious, lustful character of Gautier's "Madame Maupin," the refinement of sensuality, rendered more subtly debasing by the entrancing charm and mastery of the author's style. Indeed, it is to French modern literature that we must look for what is most seductive and dangerous in its motive and treatment in the art of romance. Still Michelet's exhaustive volume, "Love," certainly represents the most exalted feelings, and must rank with the highest essays upon

In Shakespeare we find love and lust equally portrayed. Contrast the pure emotions of Imogen, of Jessica, or Juliet, with the rollicking sensuality of Jack Falstaff. The sonnets are replete with the very essence of true love, yet, like many Greek poems, they were probably addressed to a youth, not a maiden, notwithstanding certain verses in the 127th and 128th. The spirit is throughout that of the loftiest affection—the fairest flower of Shakespeare's genius—and is equaled only in the sonnets of Michael Angelo and "The New Life" of

Dante—the most ethereal of all love poems.

Prudery might be defined as the affectation of innocence, consequently implying guilt, and a young person of either sex who can behold the divine, chaste loveliness of the Venus of Milo, the Venus of Thorwaldsen, or the Adoring Genius, without being thrilled by the noblest sense of the beautiful alone, had better never have been born. Emerson well said:

"The sinful painter drapes his goddess warm,
Because she still is naked, being drest,
The godlike sculptor will not so deform
Beauty, which limbs and flesh enough invest."

There is no more searching criterion of love and lust than a visit to a museum like our splendid Art Institute. Yet few would recognize in the famous Io of Guido one of the most exquisitely voluptuous paintings ever conceived. The picture adorns the chastest drawing rooms and is usually regarded as emblematic of all that is sweetest and purest in art, the circle including only the face and shoulders of the goddess, with the dusky form of Jove in the background. It is taken for love, yet the full painting shows that it represents only the climax of coitus. What shall we say of the thoughts of this same Guido, who left to art the most spiritual Christ and the most pathetically beautiful Mater Dolorosa?

Was the religious sentiment the normal one, or was it not in intimate correlation with a refinement of sensuality? The divine Raphael gave to the religious world its sublimest masterpiece of art, the Dresden Madonna, and Titian produced one of the noblest conceptions of Christ; the mistresses of both these masters are familiar through portraits. Kaulbach illustrated the sweetest, chastest of German poems, yet he prostituted his genius by one of the most lecherous fancies that ever polluted canvas.

In a Cleopatra, a Messalina, we perceive the depths of degradation to which lust can descend; yet Pericles, the young Augustus of his age, who brought the highest glory to the Athenian world of art and letters, took for a paramour the enchanting Aspasia. The Egyptian courtesan has been glowingly celebrated by an essentially chaste mind—that of Shakespeare—while the Athenian lovers received their apotheosis through the genius of Walter Savage Landor, one of the rarest spirits of the century. Every poet, every artist, every sculptor, every composer—all who are gifted with power of most truly expressing the loftiest emotions and feelings of mankind—have found their inspiration in the inexhaustible theme of love.

"In our idealization of love it soars beyond the bounds of earthly limitations, and we hesitate not to ascribe to it a divine character, and to embrace it in the highest and most sacred sphere of man's intellectual domain—religion. Nay, do we not raise it to the loftiest point capable of attainment when we reverently exclaim, 'God is Love!' —when we bow down and worship it as the divine essence, the supreme power." In I John, iv. 7, we read: "Beloved, let us love one another, for love is of God, and everyone that loveth is begotten of God, and knoweth God. He that loveth not, knoweth not God; for God is Love."

Krafft-Ebing calls attention to the relationship between religious and sexual feeling in psycho-pathological states. "All through the history of insanity the student has occasion to observe this close alliance of sexual and religious ideas; an alliance which may be partly accounted for because of the prominence which sexual themes have in most creeds, as illustrated in ancient times by the Phallus worship of the Egyptians, the ceremonies of Friga Cultus of the Saxons, the frequent and detailed reference to sexual topics in the Koran and several other books of the kind, and which is further illustrated in the performances, which, to come down to a modern period, characterize the religious revival and camp meeting." Not only is this alliance shown in diseased states, but it is also in evidence in normal healthy conditions. Weir says, in his monograph on "Religion and Lust," that "at the dawn of sexual life the youth's mind, filled as it is with indefinite longings and desires, eagerly seizes upon religion to satisfy its yearnings."

What is the organic relation in the individual between sex and religion? "At puberty and immediately following it is the time of crisis in the moral nature. The great bulk of those who are to become criminals become so during the later adolescent period. For every person who becomes a Christian before twelve, or during all the years after twenty, three and one-half become Christians between twelve and

twenty." More people fall in love at this period. A great burst of life and great pulse of growth comes to an individual at puberty; and why? Because at this time the sexual nature is opening and ripening.

Weir says that "men, owing to their greater freedom, soon learn the difference of the sexes, and the delights of sexual congress; women, hedged in by conventionalities and deterred by their innate passivity, remain, for the most part, in ignorance of sexual knowledge until their marriage." For this reason, it happens that very many more women than men experience religious emotion. Ungratified, or, rather, unsatisfied, sensuality very frequently gives rise to great religio-sexual enthusiasm. Voltaire cynically, though thoughtfully, observes that "when woman is no longer pleasing to man, she then turns to God." Francis Parkham, in "The Jesuits of North America," speaks of a nun who went to prayer, "agitated and tremulous, as if to a meeting with an earthly lover." "Oh, my love," she exclaimed, "when shall I embrace you? Have you no pity on the torments that I suffer? Alas! alas! My Love, my Beauty, my Life! Instead of healing my pain, you take pleasure in it. Come, let me embrace you, and die in your sacred arms."

Sex is the root of passion. Out of passion true love grows; that love which in its wider and wider extent eventually embraces the whole race—the love of God. Love is both the foundation and the pinnacle of religion, the law of life, the harmony of heaven, the breath of which the universe was born, the divine essence increate of the ever-living God.

It is the glory of the Christian faith that it is a religion founded upon Love. Other beliefs that held captive the intellect, but it was reserved for Christianity to touch the heart of man. Even the refining influences of Greek thought as revealed in the marvelous literature in which it found expression, seems to the cultivated Athenian quite compatible with a system of polytheism in which gods and goddesses were engaged in perpetual amours, to the glory of high Jove himself, and apparently to the entire satisfaction of his worshipers. Even the noble teachings of Socrates and Plato failed to reprove these royal sinners. Later, in Italy, as shown by the mural paintings at Pompeii, the offspring of Greek sensuousness degenerated into the most unbridled sensuality. Coeval, with the sublime philosophy of the Emperor Marcus Aurelius, existed a condition of debauchery which was hastening the subversion of the proud Roman empire.

With the advent of Christianity a nobler faith and purer morals were gradually diffused among the minds of men, until today the world has reached its fairest ideal of pure, stainless love. How shall we compare, for instance, Sappho's erotic "Hymn to Venus," Ovid's Metamorphoses, of the pages of Boccaccio's "Decameron," with the impassioned feeling expressed in this single modern lyric, from Barry Cornwall's posthumous poems:

"THE RATIONALE OF LOVE."

Mother.

"Love not, O daughter of the golden hair,
In man abides nor aught of true or fair
To meet thy truth, to claim thy love and care."

Daughter.

"I love, O mother, like the morning sun;
Love through my happy thoughts doth leap and run—
I love, O mother, even as thou hast done."

Mother.

"Stern, selfish, coarse, inconstant, nursed in strife,
Man strides a tyrant through the dreams of life—
His friend a martyr, and his slave a wife."

Daughter.

"I love, O mother. In the haunted air
I hear his voice, I see him brave and fair—
I hear, I see, I love him everywhere."

The Results of Sexual Excess; or Continence; Sexual Misinformation and Quack Literature.

DR. WM. T. BELFIELD.

Mr. Chairman: Since an erotic discussion of this sort savors somewhat of the experience meeting, I wish to announce that the remarks I may make are based not altogether upon experience, but also to some extent upon observation.

"There is a sucker born every minute," is

an aphorism variously credited to P. T. Barnum, Lydia Pinkham, Robt. E. Burke and other noted confidence operators. Some of these suckers escape a world of misery by early death; others attain maturity and reach the conclusion that the material side of life is in large measure a confidence game, in which the greatest financial prizes are acquired by those who can skim nearest the penitentiary without falling in. Prominent among confidence operators are those who, disguised as physicians, abuse the confidence of the young, which abuse is made possible by the failure of parents to give their children the needful information concerning sexual matters. Children are brought up with absolutely no knowledge on this subject.

All of us become, sooner or later, parents or guardians of children who we know must follow essentially the paths we ourselves trod; they must meet essentially the same difficulties, temptations and trials that we experienced. We know that their lives, like ours, will be given up to the pursuit of means for the gratification of the two appetites which are euphoniously designated hunger and love. We take great pains in the education of the young to prepare them for the gratification of hunger; we teach them trades and professions; we teach them the accumulation and the retention of worldly goods; but almost without exception, so far as I have been able to observe, we neglect to instruct them in any measure upon that equally important topic which we may call love. The results of such neglect on the part of parents and guardians are embodied in the success of the innumerable so-called specialists—quacks—who grow rich upon the savings and the fears of their ignorant victims. It is quite unnecessary for me to go into details, because every physician and layman is familiar with the extent of this evil; one cannot pick up a paper, even a religious journal, without seeing in some form the advertisements of these confidence operators. We recognize the evil; we have made through official channels various attempts to abolish it, to abridge it, but thus far with very little success. The proper way to save our youths from the clutches of these sharpers is to give them that knowledge which is the power of protection.

The other part of the topic assigned to me is "the results of sexual excess or continence." These terms are relative, and I would make a sharp distinction between the sexes in this matter of sexual relations. It is a fact we sometimes ignore, or perhaps it is never prominently brought before our minds, that the female is the type of the race; that the male is simply an accessory, an adjunct. We prove that not by any discussion as to the relative abilities, mental and physical, of the male and female, but by the development of our species from those that preceded ourselves. It is a fact, you know, that among the earliest unisexual animals, the female far exceeds the male, both in size and in capacity; among some of the early forms the male is simply a parasite on the body of the female, because unable to earn his own living. In some of the small animals the female, after having been fertilized by the male, devours him, her only way of persuading him to contribute to the support of his family. The queen bee, too, is much superior in every way to the male (drone), and after she has been fertilized the drones are stung to death by the working bees. The queen apparently considers it more economical to make some new cheap males the following spring, than to board the old ones through the winter.

As we trace the development of species upward in our direction, we see very evidently that the female is the type. The male gradually approximates more closely to her standing, but nevertheless, not even in our species, does he rank with her in the more important and essential parts of our nature. He exceeds her in size and strength; he has better weapons of offense and defense, and as a result he is of material assistance in the care of the young, and she is enabled to devote more time and attention to the rearing of offspring. But all the higher qualities exhibit better development in woman than in man, and are evidently the result of her physiological functions; and in discussing sexual matters we must draw a sharp line of demarkation between the female and male.

Continence, in the sense of absolute abstention from sexual gratification, is something that I, at least, have never seen in men. I do not mean to say that it does not exist; it is very likely that there are men who are absolutely continent, but they are relatively few. Man has been defined, you know, as the masturbating animal; though he is not the only animal that resorts to

self-abuse. The habit of masturbation is begun in the majority of cases innocently; be that as it may, very few boys attain their majority without having at some time practiced that act; having thus indulged, it is impossible for them to remain or be absolutely continent. A boy may, of course, and does, as a rule, discontinue that habit; he may, and often does, refrain from illicit sexual indulgences, and for social and financial reasons he abstains from marriage. But he is not continent in the true sense of that term; his sexual desires are constantly alert, and whether gratified or not, they exert a distinct influence on his anatomy and physiology. Real continence is certainly possible in human beings; we see it in our sisters, our sweethearts; we see a majority of the girls who have enjoyed the protection and the affection of parents grow to maturity, and even go to the marriage altar quite ignorant of the grosser sexual feelings. But it is quite otherwise with the male. Could he follow that same plan, I am sure he, like his sister, would be entirely free from harm.

Continence, in the sense of mere abstention from actual sexual contact while the individual is tormented by sexual desires, is pathological; I have seen plain instances.

Sexual excess also is a relative term, even among males. It is absolutely impossible to say what is normal for a man in that line any more than to say what is normal in the consumption of food; and those of us who frequently have to advise people suffering, or who believe themselves suffering, from sexual disease, hear stories that certainly seem remarkable as to the amount of sexual indulgence that men allow themselves, even in the sacred relations of marriage. I remember being greatly astounded when an elderly man, in the confidence of patient to physician, told me that he was sixty-four years old and his wife sixty; that they had been married forty years and during that time had averaged one sexual congress each night. Of course, this is hearsay evidence, but under the circumstances I could not doubt his statement and believe he was telling the truth. Now, if we should take that as a standard, very few people would be guilty of sexual excess. However, we must measure sexual excess by effects, and it is certain a good many men suffer from the effects of sexual excess, even though they indulge far less than the man I have mentioned.

The result of sexual excess, as we see them in the male, are comprised in chronic inflammation of the prostate and of the seminal vesicles; and doubtless that particular part of the prostate which is most affected is the verumontanum. There, we know, are contained nerve-endings through which the sexual excitement is perceived, and that, we know, is the part of the urethra which shows atrophy in cases of impotence. It is possible, however, for us to confuse the results of sexual excess with the results of disease. I remember a case of impotence referred to me by a neurologist; an examination of the urine made at once showed a large amount of sugar. And there is another disease which is far more frequently the cause of symptoms that we commonly ascribe to sexual excess than is diabetes, and that is gonorrhea. We know that gonorrhea is the cause of at least three-fourths of the failures of sexual power in those cases with which we have to deal. Infection of the prostatic urethra and of the seminal vesicles results in such changes in the nerve-endings in those parts that the sexual apparatus refuses to work in the normal way. In examining patients complaining of sexual impotence, we can often directly trace that condition to an attack of gonorrhea; so that it is quite likely that we are in the habit of ascribing to sexual excess the results of disease, particularly of chronic inflammation of the prostate and of the seminal vesicles, which result so often from gonorrhea.

The Chairman: It seems to me that the wording of the next topic on the program is somewhat unfortunate. I do not know, however, but what Dr. Martin would have enlightened us in regard to this matter if he had been here. Unfortunately, he is not able to be with us this evening. I will read you a letter which explains his absence. [Read letter.]

Since we have sat at the table I have asked one of our members, who has on previous occasions spoken upon another phase of this subject with great force and from a wide knowledge, to take the place of Dr. Martin, and he has kindly consented, on short notice, to say something on this subject:

The Sexual Act; Frauds in the Conjugal Embrace.

Gentlemen, I present to you Dr. Joseph Zeisler.

Dr. Joseph Zeisler: Ladies and Gentlemen:—The introduction of Dr. Dodson will be a sufficient explanation for the incoherent character of any remarks I may make. The theme assigned to Dr. Martin is one of the most vital, most practical subjects which can be presented to a congregation of physicians. I cannot, on such short notice, do justice to it, and yet, simply to fill the gap, I have consented to say a few words on the sexual act and frauds in the conjugal embrace. When I received the invitation I wondered what was meant by "frauds in the conjugal embrace." While sitting here, and since I have consented to talk upon this subject, I have tried to think it out somewhat, and I have an idea what the compiler of the subject may have meant. Surely, in speaking here of the conjugal embrace, it is implied that the sexual act in matrimony should be of an ideal character. The conjugal act should not be simply for the satisfaction of passion and lust; it should have a higher aim. No doubt every idealist and every practical physician will concede that the chief purpose of sexual intercourse in matrimonial life should be for the purpose of the generation of offspring. What do we see in practical life? Do we not observe fraud? We find young people getting married, and for years thereafter they have no children. Upon questioning them as to why they have no children, which we as physicians may do, they will reply to this effect, "I am not ready for it yet." I often say to these people, "If you are not ready to have children, you surely were not ready to get married." They want to wait a little. And why? Because they think the coming of a child would temporarily interrupt the pleasure to which they are entitled. This is a standpoint to which we as physicians cannot easily subscribe. This is the first fraud, the fraud of having sexual intercourse with a wife without the avowed intention of having an offspring. There are other forms of fraud, namely, the means resorted to to prevent having offspring. I believe some of these points can be safely discussed between us as physicians, and I will refer briefly to a few of the frauds. One of the most familiar frauds of which we hear so much in our practice is the practice of withdrawing the penis on part of the husband—the coitus interruptus. I believe neurologists can enlighten us as to the disastrous results of this practice on both parties, not only on the man, but also on the woman. There are other forms of preventing childbearing which are a little less harmful, as far as their physiological effect is concerned. I refer to such frauds as are practiced by means of condoms and the pessary. While opinions about these matters may differ, and there may be those who will condemn these devices absolutely, still I am frank to say that I believe there are circumstances under which these articles have a certain range of usefulness. While we would not advise a married couple to investigate the various forms or articles for preventing offspring, there are instances when the wife is frail and has had a number of children already, where the physician feels that she should have no more children on account of the deteriorative effect during pregnancy, and particularly during lactation. There is no question in my mind but what there are many such instances where the most conscientious physician will do well to advise the husband as to the manner in which he can protect his wife against having children. I for one am in favor of offspring. I generally consider it a moral crime for people to get married and wait five or six years until they get children, and lose taste for raising a family. I am in favor of a family. It is a sad spectacle, however, to see families of eight or ten children among the poor, where not a single child gets proper opportunity for education and for physical training. It seems it is only the well-to-do families who so arrange matters as to have two, and perhaps not more than four children at most. I do not subscribe to the French system of two children; neither would I advocate raising eight or ten children, except very rarely; as, for instance, in families where there is plenty of money or opulence, and where the wife has enormous physical strength or endurance. As physicians we are the ones to educate the laity in regard to this matter.

I touch here again a point which, between us, we can safely discuss. Is it not very much wiser to prevent pregnancy by one of the means I have mentioned than to allow it, and perhaps let the poor woman, when she becomes pregnant, resort to

means to destroy her offspring in other ways that are criminal and that are much more destructive to her health? I ask you, which is the proper thing? Let us be sincere in these matters. We have to be teachers of married people; we have to tell them means how to regulate these matters, and I, for one, gentlemen, consider the condom and the pessary as among the most useful and beneficial discoveries for mankind. It is unnecessary to enter into details on the subject. While perhaps a few of you hesitate to speak about these matters in a manner that you would like to do, and express yourself freely, still I believe you will agree with me in what I have said.

Another point I want to touch upon as having a bearing upon the frauds of the conjugal embrace, and one upon which I am frequently called upon to give advice, and upon which I am glad to say I have known a great deal of good to result from such advice, is the fact that in the married lives of a great many people the wife has absolutely no part, so to speak, in the sexual enjoyment of the conjugal embrace, where the wife remains simply an instrument in the hands of the man. This, in my opinion, is the greatest fraud that can be committed in this respect. Many times have I known of instances where women who had been married for ten years have declared that they had never experienced any pleasure from sexual intercourse. That is not right. She is entitled to it. The fault lies, usually, with the husband, in that he is not sufficiently educated and simply looks out for himself, to speak plainly, and does not look out for the other party.

I am glad to see that this subject has been handled in such a scientific manner without touching lasciviousness or pruriency. I wish to remark in this connection that we as physicians have great opportunities for doing good by instructing our male patients in regard to such matters, teaching them how to proceed, and I believe that the physician, above all, should be throughly informed on these subjects. I have earned the esteem of a number of husbands to whom I have imparted what I considered good advice in regard to these matters, after which they satisfied their wives. I can recall instances where married women have been barren for years, and when I investigated the matter I found that the wife was perfectly frigid and did not seem to take part in the sexual act. I advised the husband how to proceed, and I know of two instances where the women became pregnant within a few months after successfully carrying out my advice.

Gentlemen, this is a subject which cannot be handled in a few minutes. All I wanted to do was to suggest ways and means whereby we can be of service to our patients. Who should educate them if we do not? A discussion like this is very fruitful, but in order to be instructive it must be practical, open and sincere, and I am glad to see two lady physicians here who are witnesses to the fact that we can speak of these questions without having to blush.

Effect of Coitus During Pregnancy.

By Dr. Arthur C. Cotton.

Dr. Arthur C. Cotton: The importance of this subject leads me to remark that someone more competent than myself should have been selected to present it in the scientific spirit that it merits. I have been led to make a more or less exhaustive research of the literature of this subject, and, with the exception of a short abstract from a paper on a kindred topic, presented by me before the American Medical Association, at Denver, namely, on the disturbances of lactation, my remarks will consist principally of a compilation of the literature on the effects of coitus during pregnancy and lactation. With but few exceptions specialists are consulted by their married clientele in regard to these two points. There seems to be a wide difference of opinion prevailing among the laity, and, so far as I have been able to observe from conversation with my brother practitioners, among the profession, hence my quotations.

The points I will present are: 1. The effects of coitus during pregnancy are productive of abortion. 2. The aggravation of nausea and vomiting on part of the female. 3. Its relation to puerperal sepsis. 4. Its relation to labor, resulting in dystocia. 5. The possible effect on the mental development of the infant—idiocy, epilepsy and cerebral palsy. 6. Malnutrition of the infant from exhaustion of the nervous force of the mother. 7. During lactation there is a tendency to cause abortion. 8. Error of opinion on part of laity that conception

does not occur during lactation. 9. Busey states that it deteriorates the nutritive qualities of milk, which may be demonstrated. Numerous cases of convulsions in a child after sexual intercourse have been reported, and Bouchut gives a case of convulsions in a child after each repetition of the sexual act, with death of the infant resulting.

Quoting in regard to the effect of coitus during pregnancy as a cause of abortion, John Burton, writing in 1751, page 282, says: "I took notice that whatever brings too much blood to the womb and stimulates the adjacent parts may occasion abortion; whence, in some constitutions, coition, although the woman be generally more desirous of it the first two or three months of pregnancy, is bad, especially if the woman menstruates during her being with child." Crosseris (Manual, 1853, "Treatment of Tendency to Abortion") requires abstinence from coitus. Bedford (Principles and Practice of Obstetrics, 1861, page 273), in speaking of habitual abortion, says: "I have found an excellent expedient in such cases is, as soon as gestation takes place, to interdict sexual intercourse until after the fifth month." Gooch (Practical Midwifery, 1853, page 128) says that for the prevention of miscarriage, the separation of the wife from her husband is an indispensable measure. Frequent sexual connection alone will often excite the uterus to action which terminates in abortion. Hodge (Principles and Practice of Obstetrics, 1864, page 108), on the "Treatment of Disorders of Pregnancy," says, "Avoid all inordinate sexual gratification." Galabin (1886, page 133, Manual of Midwifery) says: "It is not usual to abstain from marital intercourse during pregnancy, although in this respect the animals set an example to the human race. Coitus is, however, a frequent cause of abortion, and much moderation is desirable, especially during the first four months." Grandin (Cyclopedia of Obstetrics and Gynecology, 1887, page 309), on "Hygiene of Pregnancy," says: "The question of conjugal relations has been differently answered by various authors. Although intercourse has often caused abortion, it has in other cases been quite harmless. Its effect depends on the health of the woman. In the beginning of pregnancy the woman needs absolute repose, particularly at the time coresponding to the catamenial period. In the interval the separation of the sexes is less necessary. Toward the end of pregnancy intercourse becomes more and more difficult, and we have the statement of many women that premature rupture of the membranes had been brought about by conjugal relations. Although we, therefore, do not absolutely forbid intercourse, we recommend that it be indulged in only after careful consideration of the duration of pregnancy and of the woman's state of health." Hirst (1889, American System of Obstetrics, page 394): "With respect to sexual intercourse during gestation, it is necessary to give advice with an extreme degree of circumspection. The physician's counsel is not often requested, and when gratuitously offered, it is still more seldom acted upon. Spiegelburg remarks: "It is preaching in the wilderness."

During the first three months and the latter weeks of gestation, it is wiser for husband and wife to occupy different beds, as the danger of abortion and premature labor is considerable. In any case in which the tendency to abortion is at all evident sexual intercourse must be forbidden throughout. During the interval between the end of the third month and latter weeks, in perfectly healthy women, contact ought to depend upon the desire of the female. Roederer speaks of the viri fastidium; Stoltz of the horreaur du mari (abhorence of husband) sometimes evinced by the pregnant woman. On the other hand, the weight of opinion is very much in favor of the view that in the majority of healthy pregnant women desire is greatly increased, even to the point of nymphomania. Item: History of Obstretrics, by Engelmann, page 4: "In Mexico, as the old histories tell us, the pregnant woman was forbidden to yield too freely to the desire of the husband, although coitus was indeed ordered to a certain extent, so that the offspring might not prove weakly. In Loango coitus is not forbidden. Some regulation with regard to the act exists among other tribes, and the too free exercise of matrimonial rights is often cautioned against." W. B. Dewees of Kansas ("Journal American Medical Association," 1894), on the "Care of Pregnant Women," writes: "The family physician must be fully aroused to the conscious realization of the fact that it lies within his power very largely to prevent many of the diseases among the women of

the family intrusted to his care. When this obtains, his moral obligation will impel him to promptly do his full duty, by giving adequate instruction concerning the ill effects of improper posture, dress, food, drink and erroneous habits of living, including the non-forbearance of indiscriminate, excessive and impure sensual indulgences. Then it will come to pass that the wholesome forbearance of coitus during the entire period of gestation, the puerperium, and three months thereafter, will be insisted on." Landis (Compend of Obstetrics, page 42, Pregnancy), says: "Locally, the hyperemia of the pelvic organs will cause, at first, an increase in the sexual desire." Page 40 (Causes of Abortion): "Hyperemia of the pelvic organs from over-exercise, coitus, lifting, etc." Lusk (Management of Pregnancy, page 113): "Marital relations, though not absolutely to be prohibited, should be of infrequent occurrence. Excesses in the newly married are a common cause of abortion." Page 317 (Prophylaxis of Abortion): Rapid succession. In such cases, curetting is often of service, and a six weeks' abstention from sexual intercourse may be usefully enjoined.

Palmer (American Text-book of Obstetrics, 1895, page 181): "Sexual intercourse is to be regulated carefully, for very often it is found to be injurious to pregnant women. While especially enjoyed by some pregnant women, coitus is distasteful to most women at this period, and it becomes the source of much pelvic discomfort to not a few; it may create an abortion. Even uncivilized nations have condemned the privilege of sexual intercourse during the period of pregnancy, and have visited punishment on the offender. During the first months, when so many abortions occur, and toward the last of pregnancy, it is best for husband and wife to occupy separate beds."

In regard to the effects, Palmer also says that it is aggravated by unpalatable food, by sexual excitement, and by emotional excitement. Playfair, Churchill, Cazeaux and Tarnier, Baudelocque, Dewees and John Burns agree as to both abortion and vomiting. Lusk says that coitus often increases the sickness.

Garrigues (American Text-book, page 693): "When we take into consideration that at least the staphylococcus pyogenes abounds on human hands, it can hardly be doubted that it is found also on the skin of the penis. Since women often have sexual intercourse up to the day of their confinement, there is no difficulty in supposing that they have, at the time of their confinement, such cocci in the vagina, and that, in a certain sense, they may infect themselves, not only with saprophytes, but also with pathogenic cocci."

William E. Ground ("Times and Register," Philadelphia, 1896), in the Transactions of the Medical Society of the State of Wisconsin, criticises, among other things, the condition surrounding the women of the middle and lower classes. He states that the husband, as a factor in the production of puerperal sepsis, has not received the consideration he deserves. Gonococcus has been talked of; when she is near the end of pregnancy, he comes home with a soft chancre and continues his septic and sexual relations with her. However dirty his occupation may be, he handles the penis in urinating, but never thinks of bathing before copulation. Men sometimes have sexual relations with their wives within a week or two after confinement; the woman develops symptoms of puerperal fever, and the doctor is puzzled to explain the cause, and perhaps lays it to the breasts, or to catching cold, or to auto-infection. During lactation I find that Galen, quoted by Bouchut, says: "I order all women who are nursing children to abstain from sexual relations." Further, he says, "If mother begins to menstruate from the possibility of conception she should refrain from sexual intercourse."

Out of about two hundred journal articles and of 125 authorities examined, I found but little on the subject of the effect of coitus upon lactation. It is a subject fraught with great importance to-day, and I was surprised to find such a paucity of literature on the subject. I believe this matter will be forced upon our attention more and more every day until we make it our business to inquire into the disorders of infancy, and to know what the sexual relations of the nurse may be. Platner, quoted by Bouchut, says that "Certain it is that unsatified desires are worse and more harmful than a rare and moderate use."

Routh (Treatment of Defective Lactation) refers to great sympathy between breasts and genitalia, and states that proper functional use of the one will influence the other, and advises occasional reunion to

improve and excite the flow of milk. Hartman says that "Sexual intercourse may be allowed the mothers in moderation." Trousseau remarks that "conjugal intercourse is not injurious to nurse or nursling, provided it is regulated by great moderation."

Some four or five other authorities, consulted by me, counsel moderation in sexual intercourse between the husband and the nursing mother. Some go to the lower animals for the purpose of citing an analogy and quote the practice of some dealers in cattle, especially in milch cows and goats in the southern part of Europe, where it is customary to gently irritate the genitals of the female in order to stimulate the secretion of milk, and place the animals on the market in order that they may find ready purchasers.

Speaking of the uncertainty of effects, Vogel states that "Whether a coitus upon which no gestation follows is in itself injurious, I am unable to say, but it does not seem probable, however." Bouchut states that "Nothing positive is known concerning the influence of coitus." He relates the case of a young woman whose child fell into violent convulsions each time she gave herself up to coitus. "But numerous examples, on the other hand, demonstrate that the influence is not always so injurious." Routh, in an article on galactorrhea, says that "There can be no doubt that irritation of the womb itself, or its immediate appendages, causes profuse secretion. Undue excitement has been known to produce a jet of milk from both breasts, which has only subsided with the cessation of the stimulus."

Busey of Washington, D. C., says that "Excessive sexual indulgence during the period of lactation seriously deteriorates the nutritive qualities of the milk. The unwholesome and sometimes pernicious changes produced in the mother's milk are too well established by clinical observations, if not by chemical analysis, to be considered mere coincidences unworthy of the attention and careful scrutiny of the scientific physician. Woman is the highest type of the breeding female, yet she is the only one not exempt from the approach of the male by a natural periodic interval of aestus. It is a law of the physical economy that excessive indulgence of any animal passion, or the overwork of any function or organ, is detrimental to the whole organism."

Among the legendary and ethnological examples, Engelmann furnishes the greatest number, and states that the negroes of Loango of Central Africa are a fair type of the black race. With them women are prohibited from sexual indulgence during lactation, which averages from twelve to fourteen months. Among the Northern tribes of Russia the mothers dwell apart for several months after confinement. On the slave coast, when women become mothers they are sent away for three years to nurse their infants and to prevent cohabitation. If the act should be accomplished, they believe the evil spirit takes away the milk and the child dies. In several of these cases the wife selects a substitute for her husband, and in Japan they are called or known as "by wives." Natives of Africa, Asia and many of our western territories are not only kept apart from husbands during confinement, but for weeks afterward. With them, as with Hebrews, there is the idea of uncleanliness, but by this isolation, rest and non-exposure, the women escape numerous uterine troubles. Arabs do not deprive themselves of sexual intercourse during the course of lactation. The prophet, however, without expressly forbidding this practice, lets it be understood that it must not be an injury to the nursling.

Dr. G. J. Witkowski, in "Curiosities of Breast and Lactation," says that "It is a law of nature that the woman who is nursing ought rarely to become pregnant. One can compare the uterus to the earth. As the lands which are not allowed to rest become exhausted and produce little, even so the women who are pregnant all the years without interruption, the uterus nourishes poorly its fruit." Jacobi (Transactions New York Obstetrical Society, 1876-78) states that "As early as 1758 a law was passed in France, according to which wet nurses had to inform employers of the occurrence of another conception. Not very rarely will the uterus not be able to resist the persistent mammary irritation kept up by nursing, and the fetus is expelled." Sometime ago Robertson remarked that one-half of the nursing working women of Manchester, England, conceived during lactation. Dr. Barnes ("London Lancet," 1852) has written an able paper on this subject, and has shown that in a given number of instances

abortion occurred in 17 per cent of cases in which the female became fecundated during lactation, and in only 10 per cent when impregnation occurred at other times.

In regard to idiocy and imbecility, Dr. C. K. Mills (American Text-book of Diseases of Children, page 673) writes, in speaking of etiology, of "Bad health in the mother and impressions made on her during pregnancy, the father's health or condition at the time of procreation." Sach (Nervous Diseases of Children, page 632) states that "The alcoholic habits of the father at the time of procreation are surely a potent factor of congenital idiocy." On page 683 he remarks that "Traumatism during pregnancy is another factor in the development of idiocy in the child. As the influences brought to bear are prenatal in origin, these cases may be included under the heading of hereditary idiocy, and there is all the more reason to do this, as such traumatic injuries are all the more likely to be harmful to the normal development of a child's brain in families with neurotic taint than in families whose histories are entirely negative." Taylor and Wells (Cerebral Palsies, page 516), in speaking of etiology, allude to trauma to the mother during gestation, and intimate that coitus is one of the causes of trauma. Psychic and emotional shocks, nervous and other strains, result in retardation of fetal brain development.

In the same line of inquiry, I wish to present a brief abstract of some tabulated observations selected from records because of the known environment of the nurse in her sexual relations. I shall not go into any great detail, as time does not permit. In 51 cases of digestive disturbance in sucklings in which the breast milk showed colestrum characteristics, with greater or less increase in proteids, 24 were relieved with no treatment other than the discontinuance of coition; 13 received slight medical treatment, as a mild laxative, or a few doses of calomel and soda, or a little lime water; 11 proved more intractable and required treatment from one to four weeks; one was put upon modified milk after three months' ineffectual efforts at nursing; one was changed to wet nurse after two months; one died in convulsions apparently as a direct result of excessive coitus after long abstinence. The milk analysis in these cases showed a specific gravity of 1032, fat 2, and proteids 3.8.

These cases are selected because of the apparent marked causative relation of coitus to the disturbed equilibrium of the milk; not that other examples are wanting in which this etiological factor appears equally prominent. But in the cases presented I feel morally certain that sexual indulgence was discontinued, hence the conclusion as to its etiological relationship, and the time limit is too brief to attempt an exposition of the various tests applied to this case, not to mention the many cases rejected as unworthy of classification as to proof of this one cause of disturbed lactation. That menstruation is equally a cause of disturbance I fully believe, and that as such it is much easier of demonstration.

I trust that these few carefully selected cases may stimulate other investigations in larger clinical fields, with the hope for more exact knowledge upon this important but neglected subject—the modification of breast milk.

To Remove from the Hands the Odor Acquired in Making a Post-Mortem.—Every physician who has had occasion to make a post-mortem examination is familiar with the peculiar cadaveric odor which clings so tenaciously to the hands. Those also who have treated uterine cancer know the sickening odor of the vaginal discharges, and how impossible it is to wash it from the hands. In such cases, the hands should be washed thoroughly with warm water and soap, and then listerine applied full strength.

A movement is on foot, inaugurated by Dr. E. Fletcher Ingals, to organize a Chicago Laryngological and Climatological Association. This is a most commendable move in the right direction, and one which, under such indorsement and prestige as its eminent sponsors give it, cannot help but be a success from the start. New York, St. Louis and other cities of less importance have for some time maintained flourishing organizations of this character, and Chicago should have had. Whether or not it will become a section of the Chicago Medical Society remains to be determined when the organization is completed.

THE CHICAGO CLINICAL SCHOOL.

The following operations were performed in the West Side Hospital, during the month of December, the students in attendance at the Chicago Clinical School being present. Compiled by Senior Interne Dr. Bebb:

1 Ovarian Cyst.
4 Bassini Operation.
2 Kocher Operation.
2 Intestinal Resection—Murphy Button.
6 Appendicitis.
2 Extra-uterine Pregnancy.
1 Right Inguinal Colotomy.
1 Left Inguinal Colotomy.
2 Oöphorectomy and Salpingectomy.
2 Amputation of Cervix.
3 Trachelorrhaphy.
9 Tonsillotomy.
4 Exostoses.
2 Deflected Septum.
2 Mastoid Operation.
3 Perineorraphy.
2 Cholocystostomy.
1 Perinephritic Abscess.
1 Osteo-myelitis.
2 Enucleation of Eye.
12 Adenoid Operation.
3 Polypi.
1 Hydrocele.
2 Varicocele.
3 Circumcision.
2 Tubercular Testicle.
2 Joint Injection.
1 Amputation of Forearm.
1 Reduction of Dislocated Elbow of Long Standing.
1 Fracture of Leg—Reduction.
1 Wiring of Ununited Fracture of Arm.
1 Sarcoma of Ribs.
3 Excision of Inguinal Glands.

Anatomy and Operative Surgery on the Cadaver.

The Clinical School has, since its organization, ever evidenced not only a willingness, but a determination to furnish for its students the best and most numerous advantages, both general and special. Among the recent improvements and additions made is the establishment of a special course as above indicated. These courses are conducted under the personal direction of Professors F. R. Sherwood and W. T. Eckley. Special work on any line desired may be obtained, as eye, ear, nose and throat, gynecology, abdominal surgery, etc., etc.

The following course will cover the needs of most of those who may contemplate work of this kind:

a. Dissection by the student, under the personal direction of Prof. Eckley.

b. Operative surgery by the student, under the personal direction of Prof. Sherwood.

The course offers the following advantages:

a. Classes limited to four members.

b. Each class has the exclusive use of two full subjects; one for dissection, the other for operative surgery.

c. Special attention is given to the regional dissection of surgical areas; dissections are made on one of the subjects one night, and, with the anatomy fresh in mind, operative surgery is done on the same surgical area on the other cadaver the next night.

d. The anatomical course includes the dissection of the entire body.

1. Head and neck.
2. Axillary space.
3. Joints.
4. Inguinal.
5. Femoral.
6. Thoracic.
7. Abdominal.
8. Pelvic regions.

e. The operative course will include:

1. Ligation of the important arteries in continuity.

2. Amputations, exarticulations and resections.

3. Trephining for cerebral localization; ligation of middle meningeal; mastoid operation; removal of Gasserian ganglion.

4. Operations upon the thorax, tracheotomy, etc.

5. Operations upon the abdomen and pelvis; special attention is given to the different operations for hernia, varicocele, hemorrhoids, intestinal anastomosis, appendicitis, gastro-enterostomy, suprapubic cystotomy, etc.

6. Gynecological and genito-urinary operations.

7. Aside from the above any operation that may be desired by the class will be demonstrated.

This course being given entirely in the evening, it does not in any way conflict with the other work of the class in the general course. It takes up four full evenings of each week; can be taken up at any time and finished in thirty days.

THE MEDICAL LIBRARY.

How to Examine for Life Insurance.

By John M. Keating, M. D., Fellow of the College of Physicians and Surgeons of Philadelphia; Vice-President of the American Pædiatric Society; ex-President of the Association of Life Insurance Medical Directors. Royal 8vo, 211 pages, with two large half-tone illustrations, and a plate prepared by Dr. McClellan from special dissections; also numerous cuts to elucidate the text. Price, in cloth, $2.00 net.

The subject of life insurance has become of such general importance to almost every practitioner that anyone who attempts to serve any company in the capacity of examiner will welcome the appearance of this new edition of this excellent work by the late Dr. Keating. It is not to be presumed that the possession or perusal of the volume will make a painstaking and honest examiner out of a careless and unreliable one, but it will be a most effectual assistant to that one who has his own and his employer's interest in mind while making the examination.

Since it is the doubtful and abstruse points in the examination which will embarrass the medical director, it behooves the examiner to be prepared to clear up any such as may appear in the applicant before completing his report to the director. This work is so comprehensive and at the same time so complete in its intention, and is written in such a practical style as to quite captivate the reader by its interest.

A very fair idea of its scope may be gained by noting the various chapter heads, which are as follows: Special Duties of an Examiner; The Examination of the Applicant; Habits; Pulse; Height and Weight; Examination of the Heart; Chest and Lungs; Incipient Phthisis; Abdomen, Liver and Bowels; Examination of the Kidneys; Nervous System; Women.

To this is added in part eleven copies of the instructions which are issued to their examiners by twenty-five of the leading companies of this country. Thus the whole will give to anyone a very perfect and complete understanding of what is desired by the medical directors of all the prominent companies. The chapter on examination of the urine is itself worth the price of the book, if one intends to do even a limited amount of this branch of practice; to others it is invaluable.

A Text-Book of Mechano-Therapy.

By Axel V. Grafstrom, M. D., late house physician Blackwell's Island. Especially prepared for the use of medical students and trained nurses; 139 pages, with eleven pen and ink sketches by the author. Published by W. B. Saunders, 925 Walnut street, Philadelphia. Price, $1.00 net.

The author's aim in the volume seems to be the production of an authority on the subject in the fewest possible pages. In this he has succeeded, so far as brevity is concerned, but we fear the real value of the book is thereby somewhat impaired; as, for instance, in the chapter on chronic constipation there is four pages of discussion; that on the use of mechanico-therapy in the treatment of nervous diseases we find reduced to three pages.

Some of the other subjects discussed are as follows: Medical Gymnastics; Massage; Diseases of the Respiratory Organs; Mechanico-therapy in Gout and Rheumatism; Obstetrics, and Diseases of Children.

It is an exposition of the principles of the so-called Swedish system of gymnastics, with such modifications as were deemed best by prominent teachers and authorities of the science in this country and abroad.

Fractures of the Elbow Joint.

1. All fractures of the lower end of the humerous, once in position, are held in place if the forearm is kept acutely flexed. 2. Such flexion can be used without danger to the limb or undue distress to the patient. 3. The only force required being one of flexion, no rigid apparatus is needed, it being sufficient to strap the forearm to the arm. One of the strong points of this treatment, therefore, is its perfect simplicity. 4. The points to emphasize are: Be sure to replace fragments as flexion is made, taking great care that the internal condyle is as low as possible and the joint not widened by effusion between fragments. If the condyle is kept down no gunstock deformity can occur. 5. In cases thus far treated the amount of motion gained has been slightly greater than after ordinary methods. The amount of deformity has been very much less.—Med. Review.

The Chicago Clinic.

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LIFE INSURANCE EXAMINERS.

We had almost concluded to make the title of these remarks Honest Life Insurance Examiners, but the very rasping sound and ignominious insinuation of the word in this conection compelled us to put it more mildly. Strange it is that there should be a possibility of the waranted use of such expressions when referring to the medical profession, and yet such is verily the fact, as can be well substantiated by anyone who has had even a brief experience as medical director of a life insurance company.

True, it fortunately is, there are but few men in the profession who are evidently, or can by implication, be said to be intentionally dishonest in their examinations. We do not at this time refer to that class, but rather to that much more numerous class who are carelessly dishonest; in other words, those who will accept the appointment as examiner with the tacit or expressed agreement to make a thorough and careful examination, and to protect the company in such, but who, perhaps, not realizing the importance of the matter, will send in a report bearing glaring evidences of haste or carelessness from start to finish. Such, coming to the medical officer, immediately places him a distance with his examiner, and an ineffaceable suspicion is justly aroused.

It is perhaps generaly known among those who accept the position of examiner that there is among insurance companies a so-called "black list," as well as an almost equally extensive "white list." Yet this seems to make little if any difference. It is plainly evident that no rules or laws can be promulgated by the companies which will make a careless man more careful or reliable. Lack of time either on the part of the examiner or applicant cannot be urged in paliation of hasty and "underdone" work. Such, indeed, is too often the ruse of the "foxy" agent to get his applicant passed. We do not fail to recognize the fact that the insurance field is crowded to almost the suicidal point in some quarters, and that competition is rife as it never was before in this line, but this fact, recognized by every examiner, should make him all the more rather than less careful in his work.

It is surprising how few examiners recognize the fact that they are the confidential medical representatives of the company. Fearful, too, of incurring the displeasure of the agent, they are too often led to give the applicant rather than the company the benefit of a doubtful case. While if they would but consider, they could not but realize that no medical director would be so suicidal as to allow a conscientious examiner to be replaced.

It is a strange fact that locality seems to

have some sort of peculiar significance, if not influence, on medical examiners. There is a city of considerable size, not a hundred miles from the Mississippi River, in which, with its thousand or more physicians, there is a lamentable dearth of reliable examiners. Such is a notorious fact among the medical directors whose companies do business in the city referred to. Indeed, it was a matter of serious consideration, in a convention of medical directors some time since, whether it would not be a paying investment for those interested to import a reliable examiner from another city, and give him a stipulated salary. One of those present very pertinently inquired what immunizing influences were to be employed in preserving him as a reliable examiner.

Not so peculiar, but equally true, is it that there is an Eastern Quaker city, well known to medical directors, as producing one or more perfectly reliable examiners to each block; in other words, the fraternity in Philadelphia apparently have an entirely different conception of the duties and obligations of an examiner, as well as a much clearer idea of the necessities and wishes of the insurance company and its medical director. C.

THE CONTROL OF TUBERCULOSIS.

The recent move on the part of certain prominent members of the Chicago Medical Society looking toward the organization of a society whose end of existence and aim shall be the stamping out and control of tuberculosis has attracted more than local notice. It will be generally admitted that a more philanthropic movement could not well be inaugurated along any line.

It is proposed that this organization shall be of an educational nature, and that a large part of its efforts will be in the direction of educating the public, not so much as to the dangers of the disease, for those are already well known, but rather in teaching the people how they may personally and collectively aid in the dissemination of accurate and scientific knowledge concerning the best means of preventing infection in themselves and others.

This move, while starting with the medical society, and likely to be largely guided by their advise, yet is one which, coming so directly to the public good, will no doubt be a matter of such interest as to elicit the support of many educated and intelligent philanthropists, both in this city and elsewhere. When once the public has fully appreciated the possibilities in the case, then it cannot be doubted all the financial support necessary for success will be forthcoming. The example of Otto Young, Esq., who gave $60,000 for an annex for consumptives to the Home for Incurables, and that of King Oscar of Sweden, who gave 220,000 crowns toward the stamping out of the disease, will then be appreciated.

The daily press, a most necessary and efficient assistant in this crusade, has practically assured the organizers of its hearty support. With this medium or education ready and willing, the indorsement of such physicians as Drs. N. S. Davis, A. R. Reynolds, Henrotin, Billings, Reilly, Robison, W. A. Evans and others, and the moral support of the profession of Chicago, it seems certain that some very marked and practical results must follow the movement. C.

AUTO-ORCHIDECTOMY.

Gould informs us that the history of human male asexualization is lost in the mists of antiquity, though it doubtless was Oriental in origin. Its use in modern periods has been practically limited to that of a therapeutic measure, and as a punishment for criminals. It is not our intention to refer to it in either of these phases in this connection.

A recent case appearing in one of the largest hospitals in the city was of this sort, and in its way quite unusual. The patient was a young man of twenty-eight, fairly vigorous and well proportioned physically; intellectually, he was apparently, at least, moderately endowed, and were the circumstances herein related unknown he would have been considered a more than ordinarily educated and intelligent young man.

When brought to the hospital he was almost exsanguinated from loss of blood, but gave those in attendance no small amount of interest and amusement in his description of the acts which forced him to seek hospital aid in his efforts at auto-orchidectomy. He said that he was professionally a vocalist, and that his specialty was "impersonating female parts on the high-class vaudeville stage." Naturally, he possessed an unusually mellow, smooth and resonant falsetto voice; add to this a "Boston" accent and the really amusing features can be easily imagined. The patient maintained that "lately a somber dullness and hoarseness had been coming upon his voice and that the register was slowly but surely becoming lowered."

A friend (?) advised him that castration was the only sure preventive in the case. Acting upon his advice, he says he "anointed the parts thoroughly with a mild cocaine solution, then, taking the razor, an attempt was made to remove the offending portion." As a result of this attempt both testicles were almost bisected, the spermatic cord of one and the vein in both cases were cut. Repair was out of the question, and, besides, any attempt at restoration was most strenuously and positively interdicted by the patient. The only reason offered by the eunuchistic enthusiast for being compelled to call help was, "with the rather unexpectedly free hemorrhage I became somewhat confused as to my anatomy."

The history of medicine gives few cases of this character, though doubtless many have existed. There are a number of cases reported where Cæsarean section has been done by the patient. The Romans are said to have used infibulation to prevent a change of voice in singers. Biblical history tells us "there be eunuchs who have made themselves." Another somewhat antiquated but quite appropriate reference from literature, corroborated by such an experience, is, "The fools are not all dead."

J. E.

The number of deaths among the younger members of the medical profession during the past six weeks has been very unusual and remarkable. No less than twenty-eight have died in that time who were under fifty years of age. Several of them were prominent men in their lines.

A number of cases of smallpox have been reported from towns along the Mississippi River, in both Illinois and Iowa. Vaccination is being thoroughly and systematically practiced, and as the cases seem unusually mild, no serious epidemic is feared. Leadville, Colo., and some points in Ohio are also victims of the disease.

ABSTRACT.

Acute Otitis Medica.

Dr. Bulson ("Ft. Wayne Medical Magazine") says:

1. Consider earache as a warning note of danger to the patient, both as respects function of hearing and life, and carefully inspect the visible parts implicated in the inflammation.

2. Avoid opiates, which oftentimes but mask the symptoms, and if within the first few hours no relief from pain results from hot applications and local depletion, perform paracentesis, whether bulging of the membrane is present or not.

3. Incise the drum membrane at once if bulging is detected, indicating early perforation, as it is important to, if possible, control the character, extent and location of the opening in the drum membrane in order to limit destructive changes.

4. With the appearance of discharge, begin the process of cleansing, adopting nothing more than warm detergent and non-irritating antiseptic solutions, and using them sufficiently often to keep the parts free from collections of mucus or pus.

5. Keep the naso-pharynx free of discharge by detergent sprays, and cautiously use Politzer inflation to assist in removing discharges from the middle ear, as well as to aid in preventing depression of the healing drum membrane and possible adhesion.

6. To secure the best possible results, which are always desirable, and due both patient and physician, persistently follow treatment until all discharges have ceased and the perforation thoroughly closed.

Malaria.

In many forms of disease we often find that a combination of remedies act better than a single one. This fact has been so clearly demonstrated that even the strongest advocates of the single remedy are seeking in combination a surer and more speedy method of relief and cure. In malaria for instance, we often find cases where arsenic or quinine seem to be clearly indicated; the action of either one given singly fails to produce the desired effect, but when combined with some other remedy the beneficial result is speedy and lasting. We have often found when cinchona, either in the tincture or some of its alkaloids, though apparently indicated, has failed in producing relief, a combination of cinchonidia or quinine, three grains; capsicum, one-half grain; nux, one-fifth grain, given three times a day, breaks up the trouble. In other cases Warburg's tincture produces the most satisfactory results where single remedies, however carefully selected, have failed. The combination of anti-kamnia and quinine enter now into the repertory of almost every physician. Dr. Francis Delafield, in a clinical lecture, gives a prescription for malarial fever which he says is very popular with the profession. "The arrangement with the quinine of acetanilid and arsenious acid, in the following proportions, gives very satisfactory results: Quin. sulph. gr. iii.; acid arsen., gr. 1-30; acetanilid, gr. ii." Four of these capsules are taken in the 24 hours. "Why," says Dr. Delafield, "this combination is better than quinine alone, or when arsenic is added, or why adding two grains of acetanilid makes it more efficacious than one-thirtieth of a grain of arsenious acid and three grains of quinine, is a question I cannot answer. I have found it is so by personal experience, and I have found that the adding of the acetanilid gave me such results that I could not get along without it." This experience is that of every physician who finds in his daily work that there can be no iron-bound rule in therapeutics which will admit of no deviation. We cannot always define how or why certain combinations produced the desired effect, but until we can understand the why and the wherefore we are satisfied with the results obtained.—Med. Times.

An Apostle of Health.

There has seldom been more generous and unlimited public recognition of the life work of any man than we find in the eulogistic comments of the press upon the death of Colonel George E. Waring, Jr., whose life was lost in the humane task of improving sanitary conditions in the city of Havana. Our first regret was that he was stricken before the problems which he had undertaken were completely solved. It seems unlikely that a sanitary engineer of equal experience and capacity can be found to continue the work. There is no doubt that no other feature of administration in Cuba equals in importance those

connected with the sewage, water supply and street cleaning departments of this hotbed of deadly epidemics.

Although Colonel Waring was comparatively unknown until he became street cleaning commissioner of New York City, four years ago, he had been a close student and successful promoter of sanitary work for a score of years, and the many communities that had been so fortunate as to secure his services recognized his conspicuous success in public health work.

In the street cleaning problem here, not only his perfect conception of the relation of cleanliness to health but also his military training were combined in the perfecting of a system, which passed through the stages of ridicule, doubt, expectancy, and final triumph. He had accomplished what his predecessors in office had honestly attempted for a generation and had utterly failed to compass.

From being the object of the severest criticism of an unappreciative public, Col. Waring became an apostle of health whose fame was international.

It does not surprise us that the system he instituted cannot be carried on successfully under present auspices, for although the army is still here, the great general's personality is removed and cannot be recalled. The new Commissioner has not had the preliminary training.

Like most philanthropists, Col. Waring never thought of accumulating money and left scant provision for his family.

The Chamber of Commerce has undertaken to raise a fund of $100,000, the income of which shall be paid to Mrs. Waring during her lifetime, and afterwards the principal shall go to Columbia University for the endowment of a special department which shall bear his name.

It is a noble and generous undertaking worthy of the business men of the metropolis, and its completion will be a fitting testimonial to the life and character of George E. Waring. At the present writing nearly $90,000 has already been subscribed.—Med. Rev. of Rev., Jan'y.

The Country Doctor in the Practice of Medicine.

The resources of the country doctor in the practice of medicine should be as ample as the fullness of the seas and as fertile as the lands of the earth. His courage and faith must be sufficient to remove mountains, and his gentleness that of the lamb. His life must be one of perpetual sacrifices, and his death that of the laborer of whom it is said, "Well done, thou good and faithful servant," etc. All this is desired and even required by his patients, but the law very sensibly enacts as follows:

"One practicing in a small town or sparsely settled country district is not to be expected to exercise the care and skill of one residing in, and having the opportunities afforded by, a large city. He is bound to exercise the average degree of skill possessed by the profession in such localities generally."

The ordinary and reasonable care, skill and diligence which the law requires of physicians and surgeons is such as physicians and surgeons in the same general neighborhood in the same general line of practice ordinarily have, and exercise in like cases. So while the doctor has the ideal for his motto in theory, the law requires only a percentage of that ideal in his practice. The country doctor, having to treat the same mechanism of God's handiwork as does his city brother specialist, merges almost daily into the surgical, gynecological and a dozen or more branches of specialism with his numerous patients. And while he has the pride and disposition to treat them all as well as they could be treated under any other circumstances elsewhere, how can he be expected to do so, and who knows better than the doctor himself that he cannot? However, he can treat such patients equal to his skill and environment, and the question of when and how to better their condition is one often perplexing. Again the law says: "If a physician or surgeon is not competent, or feels that he is not competent, to treat a case, it is his duty to recommend the employment of another; but if he is competent and so considers himself, and is in doubt concerning the case, he should use his best judgment as to consultations with other physicians and surgeons. But the refusal to accept the assistance of another in the treatment of a case imposes no high duty upon a physician or a surgeon." Thus it will be seen the law is not imperative, but leaves the acceptance or rejection of counsel or assistance entirely with the judgment of the physician or surgeon in charge of the case.

The country doctor is always open to

counsel. His numerous cases and experiences lead him early to see the limitations of his healing powers, and he watches the laboratory and hospital, clinical reports with keen observation, hoping for improved methods of treatment. How quickly the country doctor grasped the principles of asepsis and antisepsis, and of serum-therapy, especially as applied to diphtheria. This being the tendency of the country doctor's mind, to receive more than to impart the teachings of the laboratory and clinic, what is his first obligation to the clinical teacher and specialist, as well as to his patient? It can be no more nor less than the furnishing of material, in the form of pathological specimens, and patients at his command which he cannot himself competently examine or treat, in the interest of science and of his patient. He can thereby assist in the accumulation of data upon which he bases his daily practice.

The "Lancet" (London), in its issue of January 1, 1898, says: "The general practitioner has, as a whole class, fallen, we regret to think, upon ill times. His work has grown no lighter, his responsibilities are no less exacting, but in many directions his remuneration has decreased. He is suffering in part from the overcrowding of the profession, in part from the competitions of lay associations, in part from the faulty administration of certain great medical charities, and in part from the rampant prevalence of quackery, which enjoys in this era of civilization an immunity that is as perilous as it is astounding. Quacks there have been, and quacks there will ever be, but never, we believe, in the history of the world, have the mendacious statements of the charlatan enjoyed such credit, or his worthless wares been bought so cheerfully and so universally at such exorbitant prices, as now, at the end of the nineteenth century." But as has always been the case, for ages past, at least, genuineness has its imitations, and as specialisms become luminous in medicine and surgery, the quack becomes a reputed specialist. He enters the country town a being superior to the general practitoner. The chronic patient takes this opportunity to visit the so-called specialist, he gets the counsel for which he pays in advance, and after being duped and doped, he retires cursing the country doctor for once having told him his case was complicated, and was one for the specialist.

Dr. Willis P. King, in his book, entitled "The Country Doctor," says: "There are nurses and there are nusses." Thereby representing respectively the trained or professional and the quack nurse. In like representation we may say there are specialists and there are specialty-ists, the former representing the highest types of medical and surgical proficiency, and the latter their lowest types. The general practitioner has always been in demand since his advent in the arena of usefulness, and always will be. The evolution of the practice of medicine and surgery makes it necessary for him to make some changes in his professional and business methods in order to keep abreast of the times. But neither the high order of the specialist, nor the low order of the quack will detract from his usefulness, in the country districts, at least. The noble achievement of the specialist will give him better equipment and methods of treatment in the accomplishment of his mission to suffering humanity, while the vagaries and deceit of the quack availeth nothing.

Equipped with modern literature and appliances, directed by application and constant care for the welfare of his patients, the country doctor in the practice of medicine will be able to accomplish more in the future than in the past, and his services will be in increased demand, even to the end of time.—W. T. Searles, Sparta, Wis., in Medical Times.

The Practical Application of Preventive Measures.

The general principles involved in the prevention of infectious disease are not complex:

1. Isolation of patient, and avoidance of sick room.

2. Disinfection of rooms and contents by steam or chemicals, or by cleanliness and sunshine; personal disinfection and prophylaxis, including fortifying the system.

3. Ventilation, to prevent concentration of poisonous matter.

The management of scarlet fever in a private house, according to these principles, is not difficult. The patient is isolated in a clean room, bare of all but the necessary furniture. A hall bedroom, or one on the top floor, is to be preferred. In some instances it may be advisable to keep the patient in the ordinary bedroom occupied at the time of taking sick, and quarantine, in

the best manner possible, this floor of the house already infected. The well children are to be kept from school and church. Where the intercourse of parents with a sick child cannot be avoided, even when trained nurses are employed, it may become necessary to isolate the well children. Food and drink not consumed by the patient must be burned or disinfected in a slop jar holding a chlorinated soda solution. Dishes should be rinsed in soda solution, 5 per cent, and a sublimated solution, 1-1000, before returning them to the kitchen. As dried sputa are liable to spread through the air, all expectorated matter should be received by rags or paper spittoons, which are to be burned, or into a jar holding a sublimate solution, 1-1000. The sick room should not be swept with a broom, to avoid raising dust. For cleaning purposes employ moist rags, which are to be burned. Urinals, bedpans and feces are treated with quicklime, bichloride solution, 1-100, or Labarraque's solution.—Caille in Pedictries.

Guaiacol in Typhoid Fever.

H. G. McCormick, in "Medical and Surgical Reporter," says:

The effect of guaiacol lasts from three to four hours; the more often it is applied, the greater the effect. The sudden reduction of temperature causes chilling in a small number of cases, but after one becomes more accustomed to its use chills rarely occur. If it can be avoided, the temperature should not be reduced below 100 degrees; and this can easily be regulated by care being taken to commence with a small dose—say from ten to fifteen drops—this gradually being increased if necessary until the temperature is reduced.

Guaiacol internally does not markedly reduce the temperature, as high as ten drops in a single dose being given to a patient without materially affecting the fever, while the same amount thoroughly applied to the skin would reduce the temperature with certainty and celerity.

It is easy to apply and can be used by anyone competent to nurse a typhoid fever patient. There can be no depressing effects following its intelligent use. The dose can be gradually lessened during the progress of the case.

No appliances are necessary for its use. It is much more pleasant to both patient and family. Argument and persuasion with the family and friends do not become necessary. It is fully as effective as the cold bath. Patients are not subjected to the danger of moving. There is no complication, such as hemorrhage, etc., that being a contraindication to its use.

When given internally it is the best of intestinal antiseptics. By its use in typhoid fever the dry tongue and tympanites are abolished, digestion and assimilation rendered more perfect, and the probabilities of hemorrhage practically removed.

Varicose Veins.

Schede's operation for varicose veins is described by Dr. Vaughan, in which he claims that it is a radical and rational operation, as it obliterates the dilated superficial veins and forces the blood into the deep veins, which have the advantage of muscular compression to aid in propelling the current of blood, and thus prevents stagnation. The operation is performed as follows: "After making the parts aseptic and applying an Esmarch bandage, a circular incision is made around the leg ten to twelve centimeters below the knee-joint, through the skin, superficial fascia, and superficial veins and nerves, down to the fascia covering the muscles, just as if a circular amputation were intended. The cut ends of the veins above and below, and any small arteries which may have been cut, are then picked up and tied with catgut, and the wound closed with a continuous catgut suture."—Van Hook, Medicine.

Why Doctors Disagree.

Dr. Winkler makes the following pointed remarks on this practical question. It is often asked by the laity, "Why do doctors disagree?" Doctors are human as well as other people, and they cannot see through each other's eyes any more than other people, and unfortunately are too often prejudiced in their views or against their brother physicians. But leaving this aside, the difference in experience, observation, idiosyncrasies of the patient, must be borne in mind. Diseases do not affect individuals alike; two attacks of the same disease in the same person may present striking differences. A symptom that may escape the notice of one or the other of attending physi-

cians might, in the experience of the other doctor, have an important bearing on a case. The difference in treatment (preparations being the same); there may be a difference in strength, dose, purity of drug, time and method of administration. The season of the year, surroundings, nursing, diet, previous history of patient, must be taken into consideration.

With these facts in view, it would seem as though the physician, knowing his own fallibility, there would be none of the harsh criticisms we see and deplore in so many of our ablest men of to-day. There will be codes of ethics till time shall be no more, but the Nazarene code, "As ye would that men should do to you, do ye also to them likewise," is sufficient, and if men will not heed it, human codes are useless.

Burns aptly puts it:

"O! would to God the gift were given us
To see ourselves as others see us,
It would from many an error free us,
And many a foolish notion."

Pregnancy as It Affects Life Insurance.

Dr. J. H. Florence, associate editor of the "Texas Medical Practitioner," in a recent editorial, says: Until recent years many life insurance companies would not accept women for insurance, while others would do so, but at an increased rate. It appears that of late years they have become more charitable, but still regard them as, in a certain degree, more hazardous risks.

One company states: "Women, if pregnant, should be postponed until a sufficient time has elapsed after labor to establish her usual good health."

Another states: "Aside from the dangers attending maternity and of the menopause, she is much more liable than man to malignant troubles."

Another says: "It is an ascertained fact that female risks have proven unprofitable, as parturition and its attending complications largely increase the mortality previous to the age of fifty."

Another instructs the examiner to postpone the examination until after labor in order to ascertain if labor affected her constitution.

We find, however, one or two companies who leave the examiner to infer that pregnancy does not debar women from getting insurance and that they believe her to be a good risk, but these companies are woefully in the minority. After investigating this subject from a life insurance standpoint, we are almost led to believe that pregnancy is not physiological, and that giving birth is a pathological condition. Yet if we would think for a moment we could readily understand why childbearing, and the lying-in period, are beset with complications that may prove disastrous to the woman and make her an invalid or even cost her life. For instance, a certain per cent of women employ a midwife, take chances and trust to the Lord; others employ physicians who don't believe in cleanliness and are "agin" asepsis, in midwifery or anything else. I believe any and every one who approaches the lying-in chamber should be surgically clean, and when I say surgically clean, I mean surgically clean in every sense of the word. We find in some communities that the lying-in woman must depend upon the neighbors to nurse her the "nine days," which they do to perfection in their goodness and ignorance. We, who have practiced obstetrics, know also how hard it is to keep the woman in bed long enough after labor; they will often get up too soon, and cause trouble that follows them through life. All these things, with many others, make women hazardous risks, especially during pregnancy, labor and the lying-in period. One company states that women have proven bad risks because the examining physician did not make as thorough examinations of women as of men, and would fail to elicit from them a full history; since most women talk rather reluctantly to a strange physician, as is often the case, I have only this to say in regard to this, that a physician who examines anyone for life insurance should remember that he is a servant of the company, as he is paid by them, and that the company's welfare and his individual reputation are at stake, and he cannot afford to pass an applicant for insurance before first knowing all the facts and making a most rigid examination.

Taking everything into consideration, we doubt seriously whether women are as good risks as men, notwithstanding the fact that men drink more, and are exposed much more than women. Anyhow, most companies claim they are not as good risks as men, and prove it by figures, and "figures cannot lie," so we have been told.

Asphyxia in the New-Born Infant.

Dr. S. Stringer, in the "Georgia Journal of Medicine," gives some new ideas on this subject, as follows:

I desire to call attention to a method of relieving asphyxiated newly-born infants, which I do not think has been presented to notice heretofore. I do not claim for this method, as is done by many others, that it is novel or unique, etc., but it is based entirely upon chemical and philosophic principles, and, like many other facts in our profession, is the result of accidental discovery.

We know that in the asphyxiated infant, unless the blood becomes oxygenated very soon, the child must die; we know that from several causes the sensorium has become so deadened or blunted as not to respond to the irritation of the atmospheric air, the application of cold water, or other methods of inducing respiration; yet fœtal life still remains and would continue were it not that the placenta has become detached, and thereby respiration, or oxygenation of the blood through the medium of maternal circulation, is cut off.

Now, if we could maintain fœtal life by any method until the sensorium can sufficiently recover to respond to the nervous excitants of respiration, we would, in many instances, save the life of the infant. How this is to be done is the object of this short essay, as well as to relate the circumstances which led to the discovery thereof.

A few years ago I was called to a multipara in labor, and was told she was only in her fourth or fifth month of pregnancy. In a few hours she was delivered of a fœtus, which I took to be about the age indicated. The fœtus, membranes and placenta were all delivered by the same effort. Nothing unusual having occurred, the fœtus and envelopes were laid aside until my departure, when I had it placed in some cloths and rolled up to carry with me for the purpose of saving it as a specimen; but, it being late in the night, I deposited it until morning, when I proceeded to examine it, and, to my astonishment, found the fœtal circulation still going on, with pulse at wrist very perceptible. This was several hours after birth. Here was a case of fœtal circulation, to my mind, carried on by aëration of the blood through the medium of placenta exposed to the atmospheric air.

In contemplating this case it occurred to me that this information might be utilized in cases of asphyxia in newly-born infants, and I resolved to try the first case that came under my care.

Some time elapsed before a case offered to put in practice what I thought to be an important discovery. At last a case presented itself, a large and well developed child, of white parentage, and in which the head had been molded into cylindrical form by a narrow pelvis. The child could not be induced, by the usual method of cold application and rolling, to make any effort at respiration. The circulation was still going on in the funis with some vigor, but the deepening of the dark hue of the surface plainly indicated that, unless oxygenation of the blood could take place, death would soon follow.

Already the pulsation in the cord had become feeble, and was becoming more so rapidly, when I delivered the placenta, rapidly cleansed it of clots and exposed the maternal surface to the atmospheric air. In a very short time the pulsation was perceptibly increasing in force; the livid and death-like hue was being displaced by one of life and health, when it required but a few moments for the restoration of sensibility, when the process of respiration commenced.

I feel sure that, had the placenta remained in the os uteri or vagina, excluded as it was from atmospheric air, death from asphyxia would certanly have occurred to the child.

Several subsequent cases have proven, to my mind, that this simple and rational plan of restoration is preferable to all others, and I will ask, Why not? Does not the blood become rapidly oxygenated when exposed to the air, even in an open vessel? Have you not seen venous blood reddened in a few moments after exposure to atmospheric air? Then why not, when exposed to the air, by osmosis, through the irregular surface of the placenta, where aëration had been going on from the time of the earliest distinct organization of the embryo?

In nearly all cases of asphyxia the labor has been tedious, owing to narrow passage and time required to mold the head to the same, by the powerful expulsive effort which detaches the placenta and throws it into the os, or entirely into the vagina, as

the child emerges from the third stage of labor. Therefore, you will find no difficulty in the immediate removal of the placenta, should you have a case of asphyxia.

After its removal from the vagina, it will be much easier to lift the cord from the neck, and examine for any interference with free circulation in the cord, and correct the same. The placenta should be spread out with maternal surface cleansed of all clots and membrane, so that free access of air can be had. If it becomes necessary, on account of numerous clots, to use water to cleanse the maternal surface, it is advisable to have it warm, as it is remarkable how quickly the use of cold water will chill the child; yet it is but natural to expect such results when you apply cold to so large surface of the capillary circulation as is maintained in the maternal surface of the placenta.

So long as the circulation keeps on through the cord, you need not fear for the life of the child, for it is a continuance of fœtal life after birth, and will keep the child alive for an indefinite time.

As soon as respiration occurs, which, in some instances, has been delayed as long as twenty-five minutes in some of my cases, the circulation is diverted from the placenta to the lungs, and pulsation in the cord ceases in a few seconds, when the child is to be separated from the placenta, as in ordinary cases.

I commend this method to the profession, and ask that it be tried where more cases present themselves than are met by provincial practitioners, when, I am convinced, it will be universally adopted.

Should Ministers Pay Doctors?

Nay, rather let us put the query—why should not ministers pay the doctor? There was a time when the shepherd of the flock labored among his fold and received neither gold nor silver, but lived off the hospitality of his followers. The farmer gave him grain and vegetables, the miller gave him flour, the shoemaker made him his shoes, and the doctor gave of his skill and medicine with grace according to the needs. To-day the minister receives an income equal to the average physician, and far exceeding that of the young practitioner. The minister adapts himself to this new condition, but does not discharge the obligations of the farmer, the miller and the doctor. His income may exceed theirs, yet donations, half rates and perquisites are still not only acceptable but expected.

"I never paid but one doctor bill in my life, and I have never been to that doctor since," said an aged divine, who for the past twenty-five years has received a salary of not less than $2,000. Yet it is not unlikely that in his family more than one physician has given of his time and skill who did not have a cash income of half the amount of the minister's salary. Why should not our ministerial brethren be consistent in their business relations with their fellow men as they would have them be in the spiritual life?—Med. Standard.

Clean Surgery in Minor and Emergency Cases.

The "Virginia Medical Semi-Monthly" contains a paper by Dr. Howard, of Alexandria, on the importance of clean surgery in minor and emergency cases of the general practitioner.

I do not intend to enter into a discussion or consideration of the various antiseptics or of the rationale of their action, but, accepting authority, and having urged and pleaded for their application, to now suggest some practical hints, by attention to which clean surgery may be obtained in minor work, and having become a habit in this class of cases, will be assured in such major work as the general practitioner is called upon to perform.

First, then, concerning minor work.

Your hands, though spotless, soft and white, and but just washed and dried on a freshly laundered towel, may be surgically filthy. Adopt some one of the various accepted methods for cleansing them, as bichloride, permanganate and oxalic acid, etc., but don't dry them afterward on a non-sterile towel, and don't cleanse the nails with a knife which may not be clean any more than you have scrubbed them with a brush unclean from its last use.

Remember that "rinsing" in bichloride is a farce—laughable, but that it is criminal.

Don't grudge the time necessary to prepare to do "clean" work, as in the preparation of your "tools," viz.: instruments, needles, sutures, solutions, applications and dressings.

All instruments should be sterilized twice after each operation and before. Boiling in soda solution (℥jss—Oij) is as good a method as you can use. Boil for five minutes. If you cannot boil an instrument, passing through any flame will sterilize it; fresh soot is not unclean surgically.

Having cleaned your instruments and hands, do not soil them by contact with an unclean site of operation; this should be as carefully cleansed as your hands, by scrubbing, and the use of some accepted antiseptic. Remember, bichloride will not act in the presence of grease, and that alcohol or ether will remove that substance.

Hands, instruments and sight of operation being now clean, viz., sterile, do not soil them by contact with immaculate towels, bed clothing, or portions of your own or patient's body not prepared for operation; let not that which is clean touch anything that is unclean; use only sterilized water for irrigation in nonseptic cases. Rely more on amount of the irrigation fluid used in septic cases—that is, on its mechanical antiseptic action rather than its chemical properties, and aid its thorough application by force of steam and, where feasible, by "rubbing it in." Don't irrigate from a fountain syringe nozzle which has not been boiled since last used, and don't hang nozzle in mouth of bag when not in use; if, by mistake, you have done this in a septic case, don't use bag again until sterilized.

Don't use a pocket case which you cannot sterilize; the leather velvet-lined case is an "omnium gatherum microbium." Don't use an instrument having a wooden handle until you have removed the wood; the best handles are flat with square edges.

Don't be stingy with the number of sutures, nor of your patient's patience in placing them; consider that you are to be judged by cosmetic effect.

Don't us adhesive strips, or, if at all, not so as to touch wound; they are always of doubtful cleanliness. Don't use iodoform or other dusting powder that you have not sterilized by "cooking," and don't consider expense in its use.

Don't be stingy with your gauze and absorbent; of the former, plain as good as any, but don't rely on the reputation of the house that bottled or boxed it—"cook" it yourself.

Don't think that absorbent from pound package is made clean for swabs by dipping in bichloride. Sterilize them beforehand by boiling or cooking.

Don't consider any wound too small for the entrance of the death-bearing agencies, or that slight pain and inflammation do not matter; they are infallible witnesses of carelessness and disregard of duty.

Don't dress your wound under five days, unless throbbing pain, fever or redness be present, or unless you have used drainage, which do only when you cannot be sure of your wound being clean.

Don't be ashamed of being considered by any as finicky; quiet attention to detail need not involve fussiness. Consciousness of duty performed will well repay for the sneer that you are making a big show; for a small, neat scar, soon to disappear, and a painless result, will in time convince the layman that it is not so much what you have done as the way you have done it.

I have finished with Dont's. I have but one Do. Do be clean. Asepticism, clean surgery, to be effective, must be perfect, or it is useless. It is only to be attained by absolute and minute attention to detail. One streptococcus pyogenes is only 0.7 mm. in diameter, is autogenous, and will, if applied with suitable pabulum and conditions, beget in twenty-four hours a family which would fill the Atlantic.—Atlanta Med. Jour.

THE ONLY ONE.

"I am glad to be able to give you the following testimony regarding a patient who has been an invalid for many years and has had great trouble with her diet, I think due to a subacute inflammation of the mucous membrane of the stomach and bowels. For months at a time she has been unable to take a particle of starchy food, and naturally a number of the prepared foods have been tried and different ones have seemed for a time to agree with her, but IMPERIAL GRANUM is the only one she can always rely on, often using it exclusively as a diet for weeks at a time. In one or two instances we feel that it has almost saved her life."

ITEMS.

Fire destroyed the building of the medical department of the University of Tennessee on the evening of November 11. It is proposed to rebuild the same at an early date.

The initial volume of a new quarterly journal of medicine, edited by the versatile Dr. Hobart Amory Hare, will, it is said, make its appearance on or about March, 1899.

In case of numbness of the extremities look after the digestive functions. Very often one grain of calomel at night, for three or four nights, will completely relieve these very annoying though not serious symptoms.

In many cases of severe, protracted facial neuralgia, most surprising results have been obtained from the administration of half ounce doses of castor-oil twice daily for several days.

The trustees of the Columbia University, at a recent meeting, decided to establish a scholarship in honor of, and to be named after, the late illustrious Dr. Joseph O'Dwyer of New York.

In case of a foreign body in the stomach give large and repeated quantities of mucilage, for at least twelve to sixteen hours. It will form a coating around the foreign body, both protecting the mucous membrane and assisting in its harmless expulsion.

The new building which the Jefferson Medical College is now erecting will, when completed, be one of the finest buildings for any medical purpose in this country. It is to cost about $250,000. It has a frontage of 118 feet and a depth of 105 feet. It is to be ready for occupany by June of this year.

Dr. A. H. Cordier, in the February "St. Louis Medical Era," remarks that transient physiological enlargement of an ectopic organ is noticed only in the spleen and the kidney—the former soon after a meal or during physical exertion, the latter during the menstrual period.

Guy's Hospital has received an anonymous gift of $6,000 for the endowment of medical research, as the result of an address by Mr. Balfour, leader of the House of Commons, on the subject of research on the occasion of the distribution of prizes at the medical school of Guy's Hospital.—Times.

An English biologist, Stanley Kent of St. Thomas Hospital, London, has been studying and experimenting ever since 1893 with the "virus" used in vaccination, and now announces that he has discovered and isolated the specific organism on which the effects of the Jennerian operations depend. He has already prepared and used pure cultures of the germ with excellent results.

The second annual address before the Chicago Pathological Society was delivered by Dr. W. T. Councilman, professor of pathology in Harvard Medical School, Wednesday evening, December 28, 1898. The meeting was held in the rooms of the Chicago Medical Society. The subject discussed was "Inflammatory Processes Illustrated in Acute Inflammation of the Cornea."

It is said that Dr. Truman Miller of Chicago has been appointed by the board of trustees as temporary editor of the "Journal of the American Medical Association," in the place left vacant by the death of Dr. John B. Hamilton. It is no reflection on Dr. Miller to say that it will require much more than an ordinary amount of skill and executive ability to acceptably fill the place so unexpectably vacated.

Recent press reports, which bear the earmarks of authenticity, give out an unusual bit of information. It is said that a man from a South Dakota regiment in some way incurred the displeasure of the natives in Manila, who thereupon proceeded to get the soldier intoxicated, this being accomplished they took him to a native residence, where there was a case of leprosy, and there injected blood from the leper into a vein of his arm. While the story sounds rather "fishy," yet with the fact admitted, it is an interesting question as to what the outcome in the case will be.

The late Dr. Campbell Black of Glasgow, eminent as a physician and a clinical lecturer, was fond of saying that "medicine is no more an exact science than millinery."

In the present hour of peril to the lives of our gallant soldiery, the President of the United States called upon Colonel Waring for assistance and sent him to Havana to look into the causes productive of yellow fever and other epidemic conditions which for years have been a menace to our southern shores, from the coast cities of the island of Cuba. It was while on this errand of mercy that he contracted the yellow fever, which resulted in his death on October 29, 1898.—Cleveland Med. Gaz.

A committee has been appointed by the Aerztekammer of Brandenberg and Berlin to devise means and measures to educate the public to the dangers of consulting quacks, and the benefit to be derived from scientific medical attendance. The committee offers a prize of 300 marks for the best pamphlet on the subject by a German physician, which pamphlet is to be distributed broadcast among all classes of society. The committee numbers ten members.—Jour. Amer. Med. Asso.

Dr. John Guiteras, who has become quite noted by his connection with recent yellow fever epidemics, and still more so from his part in the Cuban movement for independence, has resigned his position as professor of pathology in the University of Pennsylvania, and will move to Havana, Cuba, where he expects to practice his profession for the remainder of his days. Doubtless we shall ere long hear of a movement for the establishment of a first-class medical college in that fair southland, with the above named gentleman at its head.

In the manufacture of air cushions and the like for the sick, very tough paper heavily shellacked and varnished in the Japanese fashion is becoming very popular among German physicians. Such articles resist moisture and the deteriorating action of body secretions much better than does rubber; they stand quite as rough usage, are generally as durable, do not become so hot and uncomfortable and are less than half as costly.

Mr. Wm. Warren, owner of the "Medical Age," is said to be defendant in a suit for $25,000 damages on account of an editorial recently appearing in that publication concerning osteopathy, to which a certain Wm. Smith, D. O., took exception. If medical journals are to be muzzled in their attempts to place these people on their deserved footing, then most of the reputable medical publications had better take advantage of the bankrupt law without delay.

It matters not whether it be the collar, the waistband or the garter, all constricting bands are injurious; anything that compresses the blood vessels and interferes with the free circulation of the blood should not be tolerated. Headache, chronic digestion of the brain, even apoplexy, will be favored and rendered more possible by the use of tight collars; while varicose veins are commonly caused by tight garters. Anything constricting the waist is evidently and obviously injurious to the vital organs within, all of which require plenty of room that they may functionate properly. We think it barbarious for chinese women to constrict their feet; Li Hung Chang thinks it more barbarious for Americans to constrict their necks, waists and legs. The old man is right; there are no vital organs in the feet. —Annals of Hygiene.

A LAPAROTOMY BY DR. CHAS. DAVISON.
AT COOK COUNTY HOSPITAL.

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Cryptogenetic Infection.

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Without going into the details of the history, it is sufficient to say that physicians have frequently observed a class of diseases wherein the symptomatology resembled that of traumatic pyemias and septicemias. It will be understood from the term cryptogenetic that the original point of infection is obscure and undiscoverable; for this reason the name cryptogenetic septico-pyemia was adopted as expressive of the preëminent primary condition, viz., concealed infection.

As the science of diagnosis becomes more perfect in its practical application, so the term as here used will be less and less in demand. Bacteriology and pathology will cast more light on the subject, and result in more accurate classifications.

Before proceeding with the disease proper it will be necessary to recall the conditions that accompany and modify an infection by micro-organisms. They are: First, a wound, abrasion or ulcer through which the micro-organism gains entrance; second, the germ having entered, it is essential that it multiply and grow before the manifestations of a local or general infection take place; third, malnutrition or anything that tends to lessen vital resistance to infections; fourth, alcoholism and preëxisting diseases, such as diabetes, nephritis, tuberculosis, etc.; fifth, natural susceptibility, and, sixth, infections such as measles, scarlet fever, typhoid fever, etc.

The organs of the body are subject to infection directly or indirectly; thus, the skin and mucous membranes, which, with a few exceptions, are always in contact with micro-organisms, are subject to direct infection; on the other hand, the bones, joints and serous cavities are infected indirectly, either through the medium of the circulation or by extension from the neighboring structures. Organs which are connected with the exterior of the body by means of tubular structures, such as the liver, pancreas, salivary glands, testicles, kidneys, etc., are subject to infection either directly or indirectly; lastly, the blood always is infected indirectly. (Kocher.)

The severity of an infection will depend on the nature and virulence of the infecting micro-organism; the symptoms and pathologic changes are due to either the absorption of toxic bacterial products, or to a general invasion of the human body with the infecting germs.

Cryptogenetic infection may justly be divided into two classes, thus: First, cases wherein the symptoms and tissue changes are due to a general infection or bacteriemia and toxemia, the pathological changes, such as septic emboli, hemorrhagic extravasations, suppurated foci and cloudy swelling, being pronounced; second, cases wherein the symptoms and pathological changes are due to the absorption of toxic products of micro-organisms, whose growth and location are limited to a circumscribed area of infection, thereby giving rise to a septic intoxication, or septicemia, without causing the lesions described under the first division, except cloudy swelling:

The onset may be sudden or gradual; in the latter the patient complains of anorexia, general debility, insomnia with headache, thirst, constipation or diarrhea, chills and fever of irregular occurrence, muscular and sometimes mild pains in the joints. These prodromal symptoms gradually increase in intensity. In order to better analyze the symptomatology it will be necessary to present it in regular order.

The temperature: It may pursue a typical course and resemble typhoid fever; or, immediately with the onset of infection, follow a remittent type and be excessively high; on the other hand, it may be distinctly intermittent, therein strongly resembling malarial fever; in other cases it is markedly irregular and atypical. Throughout the course of the infection the temperature may not exceed 103 degrees Fahr., and be the least pronounced in

cases where the symptoms otherwise indicate a profound and extensive infection. With the fever, one will observe the concomitant chills, rigors and sweats.

The great variation of temperature is influenced or modified, first, by the site or location of the original infection and the succeeding secondary infections; second, by the toxicity and developmental features of the infecting micro-organisms; third, by the antagonistic action of leucocytosis, phagocytosis and the formation of an antitoxin; fourth, by the conditions surrounding, or in contact with the local lesions; as evidence in support of the last statement we have observed cases of vesical cystitis, in which the bladder was irrigated with an antiseptic solution, and after each irrigation an excessive temperature rise with marked toxemia; or we have observed a case of gastric ulcer, where the ingestion of nourishment was immediately followed by rejection of the stomach contents and subsequent temperatrure rise, which subsided and only returned under the circumstances mentioned. In conclusion, then, the temperature in cryptogenetic septico-pyemia has nothing typical or pathognomonic and is of value only when considered in conjunction with other symptoms. The pulse is usually accelerated; and will be more fully studied in connection with endocarditis.

Bones and joints: Joint involvement manifests itself by the presence of synovitis usually in one of the larger joints, which assumes an acute, subacute, chronic or irregular course. In the acute type, the process may rapidly terminate in suppuration; in the subacute and chronic type the synovitis may persist for some time and finally disappear without suppuration and marked organic alterations. In some cases the synovitis disappears and reappears, and may involve one or more joints. A joint thus affected will be the seat of more or less swelling, severe pain, and, of course, limited motion. Sometimes tenderness on pressure may be limited to a single circumscribed area. In fact, the local symptoms will vary with the extent and nature of the joint involvement. The resemblance to acute articular rheumatism may be so marked that it will cause much doubt and difficulty in diagnosis.

The long bones may be the seat of painful spots without the local appearances of lesions therein. In others we may observe the symptoms of an acute osteomyelitis and its consequences. The tender spots may persist weeks and months without much variation and finally disappear. All the manifestations in the bones and joints are due to secondary localized infections.

Nervous system: Symptoms of nervous disturbance may and may not be present. When present, they may be limited to acute lancinating pains along the course of one or more nerve branches, which is due to substances, or a nerve that has become involved in a local suppurating lesion; then, again, it may be due to pressure from a neighboring swelling. At all events the neuritis of cryptogenetic infection is, I believe, most frequently the result of toxemia. It may terminate without causing paralysis of the muscles it supplies, but most frequently paralysis follows.

Other symptoms associated with the nervous system are such as delirium, convulsions, paralysis or hemiplegias. In short, the symptoms will be governed by the parts affected; for instance, septic meningitis, hemorrhagic pachymeningitis, cerebral abscess or edema, etc., are the most common brain lesions.

The skin: The skin may be the seat of a variety of local manifestations of sepsis. The lesions may be purely hemorrhagic, roseolar, vesicular, pustular and resemble erythema nodosum. Sometimes several types exist side by side. Circumscribed areas of skin and the underlying tissue may become edematous, tender on pressure and terminate in suppuration; on the other hand, one observes nodular infiltrations, which disappear and reappear, leaving discolorations and pigmentations as a result. The skin lesions are due to hemorrhagic extravasations, septic emboli and toxic substances. The physician should closely observe them because they are of value in the making of a proper diagnosis. Cultures made from the vesicles, etc., often reveal the presence of micro-organisms. The eruptions appear in cryptogenetic infection at irregular periods. Noticeable immediately after the onset of illness in some, they may be one of the last symptoms to appear in others. Gastro-intestinal symptoms may be limited to nausea, anorexia, occasional vomiting, with con-

stipation or a septic diarrhea and tympanites with slight abdominal tenderness.

If, on the other hand, a gastric ulcer has developed as a result of embolism, then we will observe the symptoms of a gastric ulcer. In this connection it may be well to state that a gastric ulcer, which has not caused well-marked local disturbances, may be followed by a general infection.

The heart: Cardiac manifestations will vary; thus, the heart's action may be rapid and irregular or intermittent, and auscultation may reveal the presence of a systolic murmur, or murmurs; these may be absent even when the endocardium has become the seat of inflammation. If the endocarditis is of non-ulcerative type the secondary effects on the body will not be so marked; when, on the other hand, it is ulcerative, we may expect serious disturbances due to emboli, which become lodged in the various organs of the body. We shall see that though ulcerative endocarditis is a result of an infection, it assumes a prominent part in the complications and symptomatology of an infection. I can best demonstrate its effects by giving a synopsis of a case which I recently observed.

The patient had an old endocarditis due to an attack of articular rheumatism some years ago. The present attack began with rheumatic synovitis in the ankle joint. A systolic murmur over the mitral area was present, with the other concomitant symptoms. At the end of three days sudden, acute pain appeared in the left side of the chest, with pronounced dyspnea and a bloody expectoration. Examination revealed all the signs of an acute lobar-embolic-pneumonia. The heart's action was repid; area of cardiac dullness apparently increased and the systolic murmur still present. During the succeeding eight weeks the following conditions supervened in the order mentioned: Immediately after the lung complication the spleen became the seat of embolism, as manifested by acute pain in the splenic region, local tenderness and positive sudden enlargement of this organ; almost coincident with it the patient complained of pain in the right hypochondrium and became slightly jaundiced. Examination revealed an enlarged liver, its lower border intensely sensitive to pressure. The urine, which up to this time, had been of fair quantity, suddenly diminished in amount, now contained some blood, albumen and a few casts; this change was undoubtedly due to renal embolism. Suddenly the patient was seized with vomiting and rejection of all foods. The stomach contents contained blood; in short, the local tenderness, obstinate vomiting, acute pains and bloody vomit indicated the presence of a gastric ulcer due to embolism. The intestinal discharges were thin and also contained blood.

The skin now became the seat of minute hemorrhagic extravasations and a vesicular eruption; here, too, septic emboli caused the skin manifestations.

For reasons over which I had no control it was not possible to make blood cultures or examinations.

Finally facial spasms occurred, and in the course of a few days general clonic convulsions, delirium, Cheynestokes respiration and coma, followed by death. In this case retinal changes due to emboli were noticeable. Objective symptoms connected with the heart during the course of illness were as follows: Systolic murmur over the mitral region, with apparent increased cardiac dullness; second, sound accentuation (pulmonary). In the course of a few days systolic murmurs made their appearance in the aortic and tricuspid regions. The heart's action now became irregular, with a corresponding weak, compressible pulse. During the third week, examination revealed pericardial effusion, which disappeared with the occurrence of a pronounced watery diarrhea. Shortly before death there was an apparent improvement in the pulse and heart's action, which, to be sure, was more apparent than real. I attribute the heart manifestations to ulcerative endocarditis, acute pericarditis and myocarditis. The joint symptoms disappeared when the ulcerative endocarditis made its appearance. The temperature throughout never exceeded 103 degrees Fahr. and followed a markedly irregular course. Chills and sweats, especially the latter, were pronounced.

In looking over the causes, symptoms and pathology of acute endocarditis we are justified in classing it among the cryptogenetic infections. The symptoms are often extremely obscure; thus I recall the case of a man who presented the following symptoms: anorexia, somnolence, slight

headache and pronounced physical weakness. The pulse was slow, regular and moderately full. A systolic murmur, strictly confined to the mitral area, could be heard; second pulmonary accentuated; hypertrophy left ventricle. There was no temperature elevation, no chills or sweats. Absolutely no organic lesion except the cardiac lesion could be found. The urine, though diminished in quantity, was normal. In the next seven days the patient refused all food and drink; the tendency to stupor increased and finally coma supervened, followed by death. In this case there were no cerebral symptoms except somnolence and coma, which were due, either to a profound toxemia or an effusion in the meninges; at all events, the post-mortem revealed an old endocarditis with an acute exacerbation.

The respiratory organs rarely escape in cryptogenetic infections; thus the disease process may limit itself to the ordinary septic bronchitis, or in conjunction with it one will observe a lobular or lobar pneumonia.

The involvement of the lungs is usually rather insidious and its presence first becomes noticeable to the eye when the respiration becomes impeded; at all events, one should resort to frequent examinations and thereby prevent the overlooking of a serious complication. Septic lung lesions vary in intensity; sometimes of short duration, they, on the other hand, may assume a prolonged course and be the cause of death. The pleura may also become the seat of a serous or a purulent effusion, the latter most frequently in conjunction with the septic lung lesion. It is hardly within the scope of this paper to give a detailed account of the symptoms in connection with the diseases of the respiratory organs, because they are well known and need not be repeated here.

The spleen is usually enlarged as in all infections. It does not give rise to symptoms unless it is the seat of an embolic lesion, under which circumstances it will suddenly become enlarged, and be tender on deep pressure. The acute pain which is usually much aggravated by deep inspirations will be distinctly located in the splenic region and oftentimes is very intense. Some observers claim to have heard friction sounds which were attributed to a local peritonitis. Suppurative processes are sometimes present in the spleen, just as in the other organs, and are usually due to septic emboli. When the suppuration has become fully established one may feel fluctuation. If now the abscess bursts, the splenic swelling will rapidly disappear. With rupture into the peritoneal cavity suppurative peritonitis will follow; if into the kidney, pus in the urine in large quantity will appear; if into the stomach, vomiting of pus; if into the intestinal tract, the feces will contain pus; or, it may empty itself into the lungs and appear in the sputum.

The liver may be enlarged, and, as in the spleen, become involved in suppurative processes, giving rise to one or more hepatic abscesses, which may burst into the surrounding organs, such as the stomach, colon, kidney, pleural cavity, right lung, etc. The liver involvement may limit itself to simple enlargement, or the so-called cloudy swelling, and give rise to no subjective symptoms. Jaundice may, or may not, be present; most frequently it is not present.

The kidneys are subject to the same organic changes as the other organs, and the symptomatology will vary according to the pathological changes, in one instance limited to cloudy swelling, in another to more pronounced changes, such as suppurative lesion or hemorrhagic ecchymoses. The urine will contain albumen, casts, blood corpuscles or pus cells, and sometimes the substance called albumose; all this according to the nature of the lesion.

The eye may take part in the general symptomatology and complications. Embolism of the retina will be observed with the ophthalmoscope, or the eyeball may be completely destroyed, as in panophthalmitis.

Blood examination will invariably reveal a leucocytosis and sometimes give positive results with cultures properly made.

The differential diagnosis involves the following diseases: acute miliary tuberculosis, typhoid fever, intermittent fever, trichinosis, acute articular rheumatism and, lastly, morbus maculosis.—Werlhofii.

In acute miliary tuberculosis we may find tubercle bacilli in the sputum, urine and blood. Examination of the eye with the ophthalmoscope will reveal the presence of tubercles in the choroid. Auscultation and percussion may indicate areas of tubercular infection.

There may be a history of some tubercular lesion preceding the general infection. Dyspnea and cyanosis are peculiar to miliary tuberculosis.

The temperature, as well as sweats and chills, have only a relative value, in both cryptogenetic infections and miliary tuberculosis.

Positive differential points are: First, finding of tubercle bacilli in the blood; second, finding a bacilli tuberculosis in the urine, which is rare; third, tubercles in the choroid. Of moderate value are the cyanosis, cough and dyspnea without any apparent serious lung lesion.

The finding of peptones, or albumose, in the urine may serve to strengthen the diagnosis of cryptogenetic infection. This admits of more investigation and at present is somewhat arbitrary when considered as a differential point. The symptoms of the two diseases are so much alike and of such a variety that the diagnosis is impossible without resorting to the microscope, culture tubes and ophthalmoscope.

In typhoid fever, we have a disease which pursues a more or less typical course. In differentiating it from cryptogenetic infection we must take note of the temperature curve, the pulse, the absence, as a rule, of leucocytosis, the development of typhoid fever from week to week, the roseola, and the finding of typhoid bacilli in the eruption, the serum reaction; finally, the absence of hemorrhagic ecchymosis in the retina. The differential diagnosis can only be made by a close observation of the temperature, roseola and a comparison of the symptomatology in both diseases. The difficulty increases when typhoid fever is complicated by a secondary infection through intestinal ulcers.

For cryptogenetic infection there are the following symptoms: rapid onset, irregular temperature, sweats, acute joint symptoms, hemorrhagic ecchymosis in the retina and skin, the presence of leucocytosis, and of positive value, the finding of pathogenetic micro-organisms other than typhoid bacilli in the blood. From intermittent fever we readily differentiate cryptogenetic infection, by the presence of plasmodium malaria in the former.

It may seem inconsistent to express the opinion that trichinosis can be mistaken for cryptogenetic infection, yet I have seen a case where the muscular pains, gastro-intestinal symptoms and physical exhaustion, as well as the duration of the case, the temperature rise, respiratory symptoms and the skin lesions so far resembled trichinosis that I excised a small portion of the gastrocnemius muscle to remove all doubt.

In a doubtful case, where we obtain a history of indulgence in pork, it is well to remember trichinosis and proceed to excise a small piece of muscle, preferably in, or near, its tendinous portion.

Acute articular rheumatism may be confounded with cryptogenetic infection. In seeking to make a differential diagnosis one will remember, first, that sodium salicylate will relieve the rheumatic synovitis and have little or no effect in septic synovitis; second, observation of symptoms will surely remove all doubt in the course of a few days.

In acute articular rheumatism the cause is obscure. I am rather inclined to believe that acute rheumatism has some connection with uric acid and lactic, and that the secondary lesions, such as pericarditis, pleuritis, etc., are due to infections which have been indirectly determined by the conditions accompanying rheumatism.

In morbus maculosis, Werlhofii, the most pronounced symptoms are hemorrhagic extravasations in the skin and mucous membranes. Its onset, therefore, will differentiate it from cryptogenetic infection. In cases where the disturbance is accompanied by febrile and typhoid symptoms, one may find it difficult to differentiate unless the hemorrhagic exudates are pronounced and the skin lesions typical. I believe purpura hemorrhagica is another manifestation of concealed infection.

In looking over the diseases mentioned we see the difficulty that attends a differential diagnosis. This becomes more and more apparent when we are confronted with the apparent truth that rheumatism, morbus maculosis, Werlhofii, are concealed infections, differing only in degree and virulence, of the infecting micro-organisms. Morbus maculosis, Werlhofii, is surely due to a concealed infection; this is proven by its symptomatology. There are cases of purpura hemorrhagic extravasations without pronounced signs of sepsis. These are apparently due to some chemical blood change, or a pathological condition in the blood vessels. At all events, much

research is necessary before we can properly differentiate its various conditions.

Assuming that we are confronted with a case of cryptogenetic infection, it may have considerable bearing on the case to locate the original point of infection, which we proceed to do by examining the skin, the mucous membranes of the mouth and nasopharynx, not overlooking the tonsils, which so often play a part in infections. Failing to discover a lesion, we will turn our attention to the gastro-intestinal canal and esophagus, keeping in mind such lesions as gastric ulcers, intestinal ulcers and other ulcerative lesions in the intestinal tract, not forgetting that the appendix may have been the first starting point of a general infection, or bacteriemia. We will remember the gall tracts, such as empyema of the gall bladder. The genito-urinary organs can admit of a general infection, as, for instance, lesions of the prostate gland, cystitis, pyelo-nephritis, etc.

In the female the physician may find the source of infection in the uterus and its appendages. A suppurating lesion of the middle ear may also be the primary point of infection; in fact, one will search everywhere for the original lesion and fail to find it. In this connection it is important to remember that the local lesion may have disappeared after the entrance of the infecting micro-organisms into the circulation, where they continue to grow and cause the various manifestations of infection.

I will now report several cases of cryptogenetic infection. I shall limit my report to those of long duration; those of short duration we are all familiar with.

Case No. 1: Mr. O., married; past history of chronic nasal catarrh of ten years' standing, which occasionally caused severe epistoxis and necessitated tamponing. No history of any other illness and nothing that had a bearing on the present illness could be connected with his family history. Present illness began in January, 1895, with the usual symptoms of an infectious disease, such as illy-defined muscular pains, anorexia, slight chills and fever, thirst and general debility. He consulted a physician, who informed him that he had the symptoms of beginning typhoid fever; failing to improve, he called in other doctors without recovering. The symptoms, such as slight chills, moderate sweats, general debility, complete loss of appetite, constipation, fever with mild epigastric pains and gradual loss of weight, continued without variation from January to May, 1895. According to his own statement, he remained in this condition until the month of May, when he became affected with persistent vomiting of solids and liquids, however unirritating.

The vomiting was accompanied by tympanites and obstinate constipation. The rejected stomach contents and feces never contained any blood. This physician made every effort to control the nausea and vomiting without success. During this time there was no fever and sweats. In conjunction with the gastro-intestinal symptoms he had more or less acute epigastric pain.

In June he went to a hospital, where a diagnosis of gastric ulcer with infection was made; in other words, a cryptogenetic infection from a gastric ulcer. He left the hospital and the affection continued unchanged until I was requested by Doctor Elliot, his attending physician, to see him in August, 1895.

His condition then was as follows: Skin extremely pale, emaciation well advanced, the lips and mucous membranes extremely pale and gums were tender and bled slightly. The breath was very offensive, of a strong, penetrating character. Percussion was negative; auscultation, however, carefully made, failed to reveal the first sound of the heart; the second sound could be heard with difficulty. There was no effusion in the pericardium, which led me to attribute this unusual weakness of heart beats to muscular degeneration, or myocarditis and endocarditis. In keeping with the cardiac condition, the radial pulses were so weak and compressible that they could hardly be felt, especially the left. The same state of affairs existed in the femoral and other pulses. As would be expected, slight effort or assuming the upright posture caused syncope. The pulse was not rapid or irregular. The only other abnormal state was a very marked tympanites and tenderness on pressure in the epigastrium. Palpation of the abdomen caused an eructation of gas; its odor was so penetrating that it became noticeable in the next room.

There was an apparent enlargement, or rather indurated mass in the umbilical region; this was more apparent than real. The urine was diminished in quantity, but

otherwise normal. The diminution was due to the small amount of injected foods and liquids and not to any kidney lesion. The pupils were dilated and the sclerotic coat seemed to be unusually pale. The muscles were soft and flabby. There were no nervous symptoms whatsoever.

In short, the whole condition reminded one of pernicious anemia, or prolonged starvation, and bore marked resemblance to the parasitic disease anchylostomiasis. In order to remove all doubt, I examined the feces and failed to find either the ova or the blood crystals due to this parasite.

I then made several blood examinations, with the following results: Red corpuscles, 4,000,00 odd; white corpuscles in excess in each examination. There was a permanent leucocytosis. I do not recall the exact proportion, yet it was not sufficient to justify the belief that we had a case of myelogenic leucocythemia. The blood examination now partly strengthened the opinion that the case was one of infection, as proven by the leucocytosis. The red corpuscles presented nothing unusual.

I then made six separate cultures from the blood of the skin, the latter having been most carefully prepared. I made this number of cultures in order to avoid accidental inoculations. In forty-eight hours a growth of reddish transparent color made its appearance in each tube. Examined with the microscope, I found a short, rod-like bacillus with rounded ends in the tubes. Granting that a culture made from the blood of the skin has doubtful value, I feel somewhat justified in believing that the bacilli were present in the circulation, thereby causing the symptoms.

The gastric condition was due either to a toxemia, or to an ulcer. If an ulcer, then according to the history we must regard it as a complication which made its appearance in the fifth month of illness.

Throwing out of consideration the blood cultures in the making of the diagnosis, we have the following facts to support us in the belief that the disease process was due to infection: First, persistent leucocytosis; second, the onset or beginning of the disease; third, the cardiac lesions; fourth, the gastric ulcer was probably due to a septic embolus. At all events, all diseases, such as diabetes, pernicious anemia, leucocythemia, anchylostomiasis, scurvy, carcinoma of the stomach, intestinal stricture and tuberculosis were eliminated from the diagnosis.

Treatment as follows: Enemas of water with small quantities of salt; hypodermics of strychnia and double chloride of gold. Once daily a dose of Vaughn's nuclein, as prepared by Parke, Davis & Co. The nuclein was followed by considerable general and local reaction and in the course of a week he had gained in strength, his pulse was stronger and the heart sounds could be heard and a systolic murmur in the mitral area was noticed. The dose of nuclein, which was given hypodermically, was increased from day to day. Proper attention was given to the nourishment, and in October he had fully recovered. From August to October he gradually improved, and when I last saw him, through the kindness of Doctor Elliot, to whom I am indebted for much in this case, he was able to eat ordinary foods. Another item of interest worthy of mention was the fact that the administration of the mildest laxatives caused a most intense nausea, vomiting and considerable shock.

The whole period of illness covered nearly ten months. I saw him to-day, May 30, and find him in perfect health. Recently the patient became affected with nasal syphilis.

Case No. II: Mr. G., aged thirty; married; two children, both healthy. Had suppurative tonsillitis two years ago. Present illness began five weeks ago, or about February 15, 1895. Was admitted to Alexian Brothers' Hospital March 23, 1895. Had been in the care of Doctor Keyes before entering the hospital. Doctor Keyes gave it as his opinion that the patient had cryptogenetic infection and I feel indebted to him for much information about the case before it entered the hospital.

Present illness began with pains in the chest, cough and slight chills with fever. Two days later he had rather severe muscular pains in the legs, accompanied by a petechial eruption over the body and lower extremities. Nodular infiltrations then appeared over the tibia and soon involved both lower extremities. During this time he had slight chills and fever.

When admitted to the hospital his condition was as follows: Nodular eruptions distributed all over the body; here and there pigmentations of the skin which represented the final termination of the nodular skin lesions. The nodes were hard, tender on pressure, and the overlying skin hyperemic and slightly elevated; in fact,

they felt like rounded bodies imbedded in the skin and varied in size from a pea to a five-cent piece. This eruption disappeared and returned up to about the first of May, when they disappeared permanently. Excision of a nodule followed by a microscopic examination gave the interstitial changes due to inflammation; no bacteria were found. The heart was normal, the liver and the spleen enlarged. Intestinal discharges were thin and watery, and had vomited several times. I will give the general symptoms separate discussion in order to avoid confusion.

The temperature pursued a remittent type, low in the morning and always high in the evening; chills and sweats were of irregular occurrence. The highest temperature was 105 degrees Fahr. No change in the fever took place until we administered Parke, Davis & Co. nuclein hypodermatically. This treatment was adopted April 14, about eight weeks after the onset, 10 minims every four hours, and increased from day to day up to April 22. Since its use the temperature lessened and the general condition was so far improved that the nuclein was stopped. April 24 he had a sharp chill, followed by a high temperature and an increase of nodular eruptions; in short, there appeared to be a relapse.

Began the use of nuclein at once, and this was followed by a marked improvement. April 16 he appeared to be convalescent. Profiting by former experience, the nuclein was again given in smaller doses. The temperature at this time did not exceed 101 degrees Fahr.

Since the muscular pains and other symptoms resembled trichinosis, I excised a small piece of muscle with negative results.

The intestinal discharges from March 23 to April 7 were thin, watery and abundant. I then made a microscopic examination of the feces and found a large number of megastoma entericum in active motion. I am unable to account for the presence of this parasite and am inclined to look upon it as of pathogenic nature. Bowel douches of quinine in solution had the desired effect of removing or destroying them; at all events, after April 9 the intestinal discharges were normal, and continued so.

April 1 the patient had a lobar pneumonia of moderate intensity, which did not pursue a typical course. At the end of seven or eight days it had disappeared, leaving only a bronchitis in its train.

Blood examinations were made April 6 and resulted as follows: Red corpuscles, 5,375,000. Proportion of white to red as follows: One white to nine red; pathological leucocytosis strengthened the diagnosis of cryptogenetic infection.

April 21 blood examination was made after the nuclein had been used six days; red, 5,618,750; proportion, one white to one hundred and five red. Blood cultures were negative.

The urinalysis gave nothing positive except a trace of albumen and an excess of phosphates. Specific gravity averaged 1,018. Symptoms of nervous origin were noticed throughout the illness and consisted of cutting pains in the right arm and during convalescence a neuritis involved the anterior crural nerves, followed by muscular paresis of nearly two months' duration. There was no delirium and no manifestation of brain involvement. Throughout the course of illness pains in one or more joints appeared, but rarely of sufficient duration to cause much disturbance. The liver was enlarged. This was due partly to excessive indulgence in alcoholic drinks and partly to the septicemia. The duration of the whole illness was from February 15 to July 1, 1895.

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This case differed from the first one in many respects and will make it apparent why one will resort to every conceivable method of diagnosis.

In Case II the treatment has already been mentioned; in short, nuclein was given alone for the sepsis. During convalescence tonics were administered. In this case the symptoms were limited, first, to sharp febrile manifestations; secondly, typical skin lesions; thirdly, mild respiratory lesions; fourthly, blood changes or pathological leucocytosis; fifth, localized neuritis; sixth, parasitic intestinal disturbance, and, seventh, occasional chills with sweats. The original point of infection is, of course, subjudice. I have given you a synopsis of this case with its important features. It had to be differentiated from typhoid fever, purpura-hemorrhagica, amebia coli, syphilis, trichinosis and multiple neuritis.

Case No. III: Mr. S., single; family history negative. Present illness began with the typical symptoms of acute appendicitis; these disappeared at the end of forty-eight hours and gave place to pronounced rigors, followed by a temperature rise of 105 degrees, or 106 degrees Fahr., which

disappeared with the occurrence of profuse sweats. He passed from one to two gallons of urine every twenty-four hours, of 1,018 or 1,020 specific gravity; otherwise the urine was normal. The fever, chills and sweats appeared regularly every second day; during the intervening periods the temperature was only 99 degrees to 100 degrees Fahr. Here, then, we had a distinctly intermittent fever. Doctor Sherwood, to whom I am indebted for the history, and who had charge of the case, found no plasmodium malaria and nothing pathological in the blood except a leucocytosis. This condition continued about two weeks, when Doctor Sherwood permitted me to see the case in consultation.

The following condition was found: Urine in excess as before, which was to be attributed to an excessive tissue waste as in most infections. Spleen, liver, stomach and intestines were normal. A slight systolic murmur could be heard in the mitral region. With the exception of a few râles in a limited area of the right lower lobe the lungs were normal; pulse somewhat accelerated. Had a cough which was due to acute bronchitis. A few roseola-like spots were found on the abdomen. At this time it appeared as if the patient was convalescent. Infection through the appendix was suspected. In the succeeding two months the case pursued a violent course, beginning with a septic pleuro-pneumonia, which failed to resolve. The expectoration was odorless, consisting of pus, and amounted to a pint or more in twenty-four hours.

Cultures contained staphylococci pure and simple. In consequence of the pleural condition Doctor Sherwood drained the cavity. Cultures made from the pus again gave the staphylococcus pyogenous albus. During the time when the case was apparently limited to the chest lesions the temperature pursued an irregular course; in fact, it persisted in spite of the drainage, which was large and perfect. In other words, the septic process did not cease with the evacuation of pus. Cultures made from the roseolar spots and blood grew staphylococci early in the case, before the chest lesion appeared. The urine remained unchanged.

Finally the patient complained of intense headache and in the course of a week developed the following symptoms:

Delirium, paralysis of right arm, then the right leg; next the left side of face was paralyzed, aphasia, difficulty in swallowing, cheyne-stokes respiration, coma and finally death followed one another in the order mentioned.

Case IV: Mrs. X., no children, family history good, no illness previous to that herein mentioned. In June, 1897, was taken with symptoms of an infection, such as moderate chills, fever, nausea, anorexia, general debility, acute bronchitis, and no well defined signs of local organic lesions. From June to the latter part of August she lost in weight, became considerably weaker and had irregular mild chills and temperature elevation. During this time she was able to visit Colorado in search of health. She was unable to tolerate the elevation and climate and therefore immediately returned.

Referred to me by Dr. Goldspohn, the following briefly describes her condition when I saw her in September: General pallor of the skin and mucous membrane, pulse soft and rapid, dyspnea on the least exertion, tongue moderately coated, pale and flabby, over the lower extremities a few ecchymoses, marked edema from the knee down, menstruation irregular, small in quantity with moderate epistaxis, anorexia, constipation and atonic dyspepsia.

Physical examination: Temperature 101 degrees Fahr. Pulse 117, soft and weak. Anemic murmurs very perceptible; no cardiac lesion discoverable; lungs, liver, kidneys and abdominal cavity apparently normal. Urine indicated excessive tissue waste; in short, general symptoms pointed strongly to pernicious enemia. Blood examination resulted as follows: Red corpuscles, 1,500,000 in number; proportion of white to red, 1 to 107; poikylocytosis, nucleated red corpuscles, microcytes and macrocytes; leucocytes consisted largely of the polymorphonuclear types. Briefly, the blood examination and general symptoms strengthened the diagnosis of pernicous anemia, due to an infection of unknown origin.

It should be stated that she had already taken the various tonics without effect. I ordered nutritious food properly prepared and gave her per orem Parke, Davis & Co.'s five per cent. nuclein in dram doses every four hours. Furthermore, I exam-

ined the blood repeatedly and noticed an increase of leucocytes in the proportion of one white to forty red; this increase was maintained. At the end of three weeks the blood count gave over 3,000,000 red; the temperature and chills had disappeared; appetite returned; general strength increased and she was able to leave the house without suffering ill effects. About this time it became apparent that the edema which persisted in the left leg was due to phlebitis. In the course of several months she had fully recovered.

I believe the phlebitis was secondary and the original point of infection was not discoverable.

Venetian Building.

Ovarian Tumors.

By CHARLES DAVISON, M. D., Professor of Surgery, Chicago Clinical School; Attending Surgeon to Cook County Hospital and The West Side Hospital.

A Clinic at The West Side Hospital, Jan. 10, 1899.

Gentlemen: This patient is an American woman, forty-three years old.

Her family history is negative, except that two of her mother's sisters died of ovarian tumor. Her personal history is good.

Menstruation began at twelve years of age and has been fairly regular until six months ago, when the flow practically ceased. Has not to her knowledge ever been pregnant.

Has been married five years and has never taken any precautions against pregnancy. She tells me that motherhood would be only too welcome.

History of present trouble began six months ago when menstruation was suppressed. Soon after she noticed a small abdominal growth low down in the left side. This has continued to enlarge, gradually growing upward and toward the umbilicus. During this time she has had morning nausea and emesis, frequently getting out of bed in the morning to vomit.

She has had slight enlargement of her breasts, with tingling sensations, but no change of color around the nipples.

A few days ago she sought advice to determine whether she was pregnant or had an ovarian tumor.

Physical examination shows a robust, fleshy woman, with red lips, good color and the very picture of health.

Exposure of the abdomen shows thick, firm, fat abdominal walls, moderate distention rising to a crest just below the umbilicus. Palpation shows an abdominal tumor size of an adult's head, spherical, smooth, elastic or semi-fluctuant, situated in the middle line just below the umbilicus, but quite freely movable.

Percussion gives dullness over the tumor, tympany surrounding it. Auscultation over the tumor and over the inguinal region is negative.

Gynecological examination shows the vulva and vagina normal in appearance; the cervix high up in the vaginal vault, not congested or softened; the external os uteri slit-like, not circular and not plugged with mucus.

Bimanual examination shows the uterus high up. I am not able to locate the fundus on account of the thick and resisting abdominal walls. I am not able to palpate the tumor through the vagina. Ballottement gives negative results. Rectal examination was negative. I am not able to palpate fundus of uterus or the tumor.

I have explained to the patient the difficulty in her case of excluding pregnancy without an examination under an anesthetic, and she is taking ether with the understanding that if there is any possibility of pregnancy she will wait until time decides, but if an ovarian tumor is present that we will proceed with the operation at once, so as to avoid another anesthetic.

As she is now thoroughly relaxed we will proceed with the examination.

The differential diagnosis is between ovarian tumor and

1. Ascites.
2. Phantom tumor.
3. Fat tumor.
4. Distended bladder.
5. Fecal tumor.
6. Hydatid cysts of liver and spleen; cysts of omentum, mesentery, pancreas and kidney.
7. Pregnancy.
8. Solid tumors of the uterus.
9. Solid tumors of the ovary.

(1) In ascites the fluid is free in the abdominal cavity and the intestines float, causing tympany at the upper part and dullness at the flanks. This is not ascites,

because dullness is over the tumor and the tympanitic sound is at the side.

(2) Phantom tumors are tympanitic; this tumor is dull. Phantom tumors always disappear under an anesthetic; this tumor is still present.

(3) Fat tumors have a doughy feeling, with indistinct outline; this tumor has a tense, distinct feeling with a definite outline.

(4) Distended bladder is excluded by recent catheterization.

(5) Fecal tumors have a doughy feeling and an irregular, oblong outline; this tumor is tense and spherical. A fecal tumor is excluded in this case by the repeated cathartics and colonic flushings in the preparation for the operation.

(6) Hydatid cysts of liver and spleen and cysts of omentum, mesentery, pancreas and kidney grow from the upper part of the abdominal cavity, downward, and are connected with the organ from which they originate. The history of this tumor shows that it originated in the pelvis and its growth was upward.

(7). Pregnancy must be absolutely excluded or we will not operate. The probable symptoms of pregnancy are:

(a) Suppression of menstruation.
(b) Morning nausea and vomiting.
(c) Enlargement of breasts with tingling pains and pigmentation about the nipples.
(d) Blue congested appearance of the vagina.
(e) Softening of the cervix and the external orifice in primiparæ feels circular instead of slit-like. The cervix is plugged with mucus.
(f) The uterine bruit.
(g) Quickening.
(h) Gradual enlargement of abdomen.

This patient has ceased to menstruate, has had morning sickness and vomiting, has had enlargement of the breasts, accompanied by tingling pains, and gradual enlargement of the abdomen, but she has had no change in the color about the nipples and the appearance of the vagina and cervix is perfectly normal.

I can find no uterine bruit.

The patient is uncertain whether or not she has felt quickening.

The positive signs of pregnancy are:

(a) Fetal movement.
(b) Fetal heart sounds.

I have been unable to hear fetal heart sounds after repeated attempts.

I am unable to get fetal movements, either by abdominal palpation or by careful ballottement.

The positive signs excluding pregnancy are:

(a) Palpation of a uterus of normal size independent of the abdominal tumor.

(b) Independent lateral mobility between the uterus and the abdominal tumor.

The patient is now thoroughly relaxed and I will proceed to make a bimanual examination.

The uterus is drawn so high up into the abdominal cavity that I cannot reach the fundus through the vagina. I cannot reach it through the rectum.

I will next apply Hegar's test. I seize the cervix with a vulsellum and draw it down toward the vaginal outlet.

It is perfectly harmless to draw a normal uterus down until the cervix is at the level of the hymen. With the uterus held in this position I will make a bimanual examination through the rectum.

I can now feel the uterus distinctly through the rectum as I hold it back with my upper hand.

The uterus is normal in both size and shape. As I hold the uterus in position with my finger in the rectum, against the fundus, I can move the tumor sideways without displacing the uterus. It is absolutely certain that the woman is not pregnant. As I crowd the tumor down toward my finger in the rectum I can feel distinct fluctuation. I can feel the ovary on the right side, but I cannot feel the left ovary.

(8) Solid tumors of the uterus are generally accompanied by menorrhagia and the size and contour of the uterus are changed. In this case we have a uterus of normal size and shape and amenorrhea.

(9) Solid tumors of the ovary do not fluctuate, are generaly malignant and consequently nodular and accompanied by ascites. In this case there is no ascites and the tumor is smooth and fluctuates.

We will recleanse our hands and the field of operation and proceed with the ovariotomy.

The incision is made in the median line immediately over the tumor. Cutting down through the skin and this immense thickness of fat, through the fascia covering the abdominal muscles, I separate the fibers of

the rectus muscle without cutting them. The peritoneum is now exposed. The wound is sponged clean and all bleeding stopped before the peritoneal cavity is opened.

The peritoneum is held up by rat-toothed forceps and is cut between them, to avoid injury to the intestines; a finger is introduced into the peritoneal cavity, and the opening enlarged with scissors, the finger acting as a guide and preventing injury to the intestines.

The cut edge of the peritoneum is attached to the skin, wound by a single stitch on each side to prevent stripping of the peritoneum from the abdominal wall and for convenience in locating it in closing the abdominal wound.

I will introduce my hand into the abdominal cavity and examine the tumor. I find a tumor about eight inches in diameter, perfectly round, smooth and fluctuating.

I find it attached to the left broad ligament by a long, slender pedicle. There is not a single adhesion about the tumor. It is freely movable and as I bring it up to the incision you can see it presenting.

I carefully pack back the intestines with laparotomy sponges to avoid injury to them and to avoid soiling the peritoneal cavity with the contents of the cyst.

While holding the tumor tightly against the wound with my hand in the abdominal cavity, I introduce into the tumor a trocar and canula connected with a tube to carry the fluid entirely away from the field of operation, because the fluid may be very irritating; it may be septic or it may contain the elements for papillary implantation. As the contents of the tumor empties you see that it is a thin, straw-colored fluid. As the tumor collapses I pull it up into the wound with rat-toothed forceps, so that the fluid does not escape around the canula.

It is nearly empty and I will close the trocar opening with a clamp and deliver the remaining part of the tumor through the abdominal wound. I quickly ligate the pedicle as low down as possible with a double interlocked catgut ligature, and cut away the tumor. Hemostasis of the pedicle is perfect and I drop it back into the abdominal cavity.

The next step in the operation is the toilet of the peritoneal cavity.

The laparotomy sponges are removed and the peritoneal cavity examined for free blood or discharges.

The peritoneal cavity appears perfectly clean; apparently no fluid or blood has soiled it.

I will bring up the other ovary for examination. It appears normal The abdominal wound will be closed with a mass suture without drainage. As the sutures are passed the fascia covering the recti muscles is brought sharply to the wound with rat-toothed forceps, with a result that when the wound is closed the cut edges of the fascia are brought together in good apposition without tension.

If there is good apposition and aseptic healing of this fascia there is little danger of ventral hernia following the operation. While the dressings are being applied we will examine the specimen and endeavor to learn what we can of its variety and histogenesis.

Cystic tumors of the ovarian region are usually divided into:

(1) Oöphoritic cysts or, those which originate from the oöphoron or ova-producing part of ovary.

(2) Paroöphoritic cysts, or those which originate in the paroöphoron or hilum of the ovary.

(3) Parovarian cysts, or those which develop from the parovarium.

Oöphoritic cysts can be subdivided into.

(a) Follicular cysts, which are the results of non-rupture of the mature ovarian follicles. They are typical retention cysts. This form constitutes the ordinary cystic ovary.

(b) Glandular cysts, or cyst adenomata, are the common multilocular cyst. They are the classical ovarian tumors. These cysts probably develop from the tubes of Pflüger. The ovary soon loses its identity by being spread out and incorporated in the cyst wall, and cannot be seen as a distinct structure on the surface of the cyst. These cysts are always in the beginning multilocular, and even when all the cystic compartments have ruptured into one, we can find the remnants of the dividing walls. The multiple cyst formation, with entire disappearance of the ovary, are the distinguishing characteristics.

(c) Dermoid cysts more often grow from the oöphoron than any other organ. They are always primarily unilocular. Their distinguishing characteristics are that they are lined with squamous epithelium, and may contain any of the different appendages of the skin.

Paroöphorite cysts or papillomatous

ovarian cysts probably develop from the remains of the Wolffian body in the hilum of the ovary. They are usually uniloc-ular. The interior of the cyst is studded with warty or cauliflower-like excrescences. Their distinguishing characteristics are the presence of these papillary growths and the absence of the intact ovary on the cyst wall.

Parovarian cysts originate in the tubules of the parovarian. They are usually uniloc-ular; they rarely contain papillary growths. Their distinguishing charactertistics are that the ovary remains practically intact on the surface of the cyst, and that the Fallo-pian tube is much elongated and stretched out over the cyst wall.

As we examine the outside of this cyst we do not find the ovary and the tube is not elongated, as we would find in a parovarian cyst.

As we examine the inside of this cyst we find there is only one cavity; it is not a multilocular or glandular cyst, because when of this size there would be several cavities.

Opposite the attachment of the pedicle there is a mass of papillary growths and a few more studded over the inside of the cyst wall. This is certainly a paroöphoritic cyst.

If a tumor of this character is removed while the cyst wall is intact there is no tendency of the papillary growths to recur, but if not removed early the luxuriant growth of these cauliflower-like masses ruptures the cyst, when there is a tendency of the papil-lomata to extend over the peritoneal sur-faces, both by direct extension and implan-tation of detached particles on distant parts of the peritoneum.

Under these conditions the tumor be-comes semi-malignant.

Rectal Abscess.

By J. R. PENNINGTON M. D., Chicago, Professor of Rectal Diseases in the Chicago Clinical School; Consulting Surgeon Mary Thompson Hospi-tal for Women and Children; Member of the American Medical Association, Illinois State Medical Soci-ety, Chicago Medical Society, etc.

At first glance this subject may seem too insignificant for consideration, yet from a surgical standpoint I am sure it deserves serious and intelligent thought. It is for this reason that I desire to record a few ob-servations. It has been my misfortune to see more than one patient die from the ef-fects of a rectal abscess, and others barely rescued from a fatal result from the same cause. It is the too common observation of those who see much rectal work that abscesses around the rectum are treated by the physician in a very unsurgical manner. Instead of opening the abscess and giv-ing free exit to the pus, it is usually poul-ticed until it bursts. This is radically wrong. Such advice and treatment have either directly or indirectly made many a poor sufferer an invalid for life. To say the least, every rectal abscess should be opened as soon as pus is discovered or sus-pected. It is certainly very discreditable for a physician to allow pus to burrow for days or weeks, as is often done, around and through the tissues of the rectum.

Recognizing the importance, then, of an early evacuation of the pus in rectal ab-scesses, how is it to be accomplished? Do you know that patients have told me that their physician, and in many instances they were surgeons who would not hesitate to perform a major surgical operation, had actually opened a large abcess with a needle? That you may note the results of such treatment, I will briefly append a few cases that I now have under observation.

Case 1: A young married woman was sent to me recently to be treated for a rec-tal trouble. She gave the following his-tory: Because of some family misunder-standing her husband kicked her upon the left buttock; an abscess followed. This was poulticed under the direction of her physi-cian until it came to a head and was opened by him with an ordinary cambric needle. A fistula resulted. This he treated for some months with injections, presumably of nitrate of silver solution, iodine or car-bolic acid. Upon examination I found an extensive horseshoe fistula involving both buttocks and a tract leading into the bowel dorsally. It required several weeks in bed and a careful and extensive operation to cure this poor sufferer and preserve sphinc-teric control. This fistula was undoubt-edly due to the improper treatment of the abscess.

Case II: This patient was referred to me by Dr. Perrin. Six years ago she had an abscess pointing over the coccyx, caused by a fall. The abscess was opened and con-tinued to discharge pus. The pus continued

to burrow through the tissues until finally it burst through the hip. These tracts have discharged periodically since the abscess was first opened. When she came to me there was a large mass filling the entire pelvic cavity, which firmly fixed the uterus. She also had a recto-vaginal fistula which she said had existed for the last twelve months. Gas, feces and enormous quantities of pus were continually passing through all of these openings, as well as per rectum. The openings into the rectum being some three or four inches high, her general health very low and the discharge of pus very great, I felt that a colostomy, which I did at The West Side Hospital, assisted by Dr. Davison, offered the only hope for a successful procedure. It seems to me that such a serious and pitiful condition of affairs as presented by either of these cases, and especially the latter, should be sufficient reason for physicians giving more careful thought to these abscesses and their management.

We will let these two cases suffice as a basis for a few remarks concerning the treatment. I am sure that you have already surmised that the two most important points to be observed are early evacuation of the pus and free drainage. Early intelligent treatment of rectal abscess would cause fistula in ano, which is one of the most destructive forms of rectal disease, and which is held by many to be the most frequent, to become one of the rarest forms of rectal ailments. This being true, it is but little short of criminal to permit such a condition to occur when prevention can be so easily accomplished.

Just as soon as pus is detected, or there is good reason to suspect its presence, the patient should be warned of the sequelæ—sepsis, fistula, etc., and advised to submit to a surgical operation. Consent obtained, the parts should be thoroughly cleansed, an anesthetic administered and a free incision made into the infected part. This will give free exit to the pus. Then the cavity should be well irrigated with a mercuric solution, all bridges and loculi should be broken down with the finger, at the same time keeping up the irrigation either with peroxide of hydrogen or a mercuric solution. To put the part at rest, the sphincter should be thoroughly divulsed. Pack the cavity with iodoform gauze and dress with gauze, cotton, T-bandage and put the patient to bed. In twenty-four or forty-eight hours remove the dressings, irrigate with peroxide of hydrogen or a mercuric solution and pack loosely with gauze and dress as before. This treatment is to be repeated daily until the wound has healed.

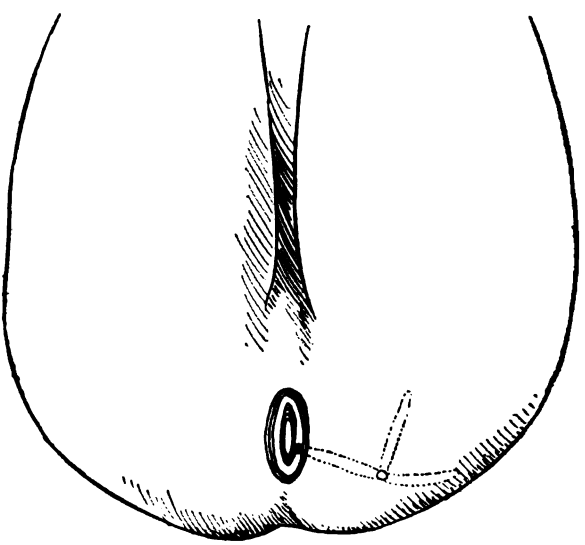
103 State street.

Operative Treatment for Rectal or Anal Fistula.

By J. M. AULD, M. D., Chicago, Prof. of Rectal Surgery, Chicago Clinical School; Prof. of Rectal Diseases, Harvey Medical College: Attd. Gynecologist and Rectal Surgeon, Chicago Baptist Hospital.

Fistula and abscess should be treated together, as I believe rectal abscess is the most frequent cause of fistula. In fact, we must have infection and suppuration before we can have the fistulous tract formed, but we need not become confused over an elaborate division of abscess, as the three varieties most spoken of are sufficient for our purpose. Most frequent in the order mentioned, marginal, ischio-rectal and pelvi-rectal; a mention of these will make it somewhat plainer to our minds.

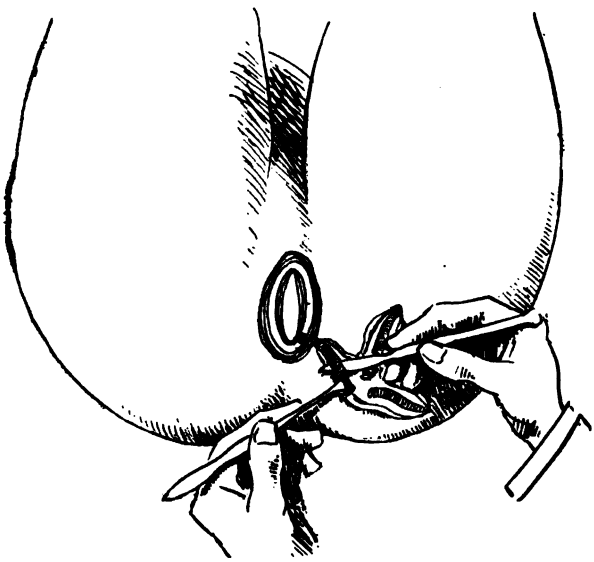
Rectal or anal fistula was at one time



(FIG. 1.)

considered the most frequent form of rectal disease, and also one that was very grave in that it was thought to be unsafe to attempt to close it for fear of its determining to some other organ of the body, especially in tuberculosis, but since the advancement in

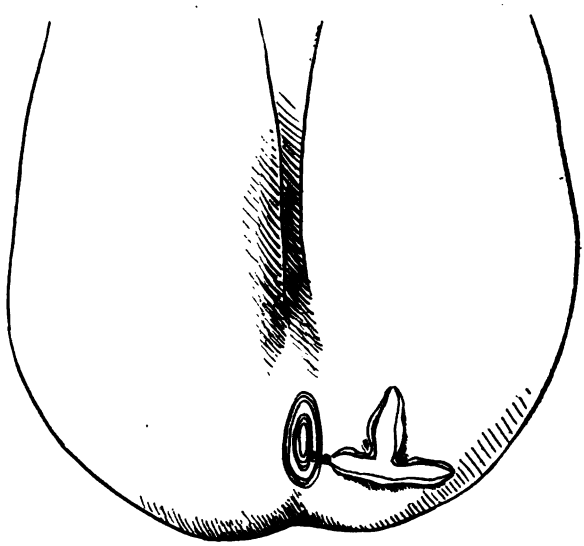
the means of examination of rectal disease and the much improved treatment for abscess, fistula is not so frequent, nor are the complications in its treatment so serious. Its classification is as follows: Internal complete and external incomplete, and the horseshoe. which may be either of the above. If there



(FIG. 2.)

is perforation of the muscular wall it nearly always occurs between the sphincters. It seldom occurs above that point, because of the decussation of the levator ani with the internal sphincter. It perforates at this point because of the diversion of the pus formations along the levator ani muscle to this point. The opening may not perforate the mucous membrane at this point, but instead higher up, or it may be laterally to the muscular perforation. The external opening of the fistula may be at any point external to the anus over the buttock or perineal region.

Fistula, as indicated, arises from marginal or ischio-rectal abscesses, which are neglected or improperly treated, allowing the abscesses to burrow within the cellular or adipose tissue toward the point of least resistance, this being the rectal wall and not integument. This may be of tubercular origin, but not so frequently as otherwise. The treatment is of the greatest importance. In the beginning I wish to again speak of the sphincter muscles, the internal and external. The external is the muscle of greater importance, because of its relation, physiologically, to the anus. It controls the outlet and is the muscle that is under control of the mind. Every surgeon knows the danger of dividing the muscle, so on that account it is not to be divided, except in extreme cases. I have gone so far as to say to my classes, "Never divide the sphincter muscle." Why should we divide it when the work can be done without so much risk to the welfare and comfort of the patient? The method of operation I am about to describe I do not claim as original with me, but as one that is used by very few operators. The attention of the profession is not and has not been directed to rectal surgery to the extent which it deserves. Very little detail is given in the description of these operations, and I find that the majority do not follow progressive methods or teach a conservative treatment as regards the division of the sphincter muscles. As to the operation for a complete fistula without division of the sphincters, as I have said elsewhere, this method is not original, but my procedure is somewhat different from that of others who have described the operation. I will give herewith sketches show-



(FIG. 3)

ing the different stages, and these apply in cases of complete or internal incomplete fistula, it being unnecessary to make an opening into the rectum in any other form of fistula. I wish, before proceeding farther, to make another strong assertion, viz.:

Do not make an external incomplete fistula a complete one by passing the probe or director through the rectal wall.

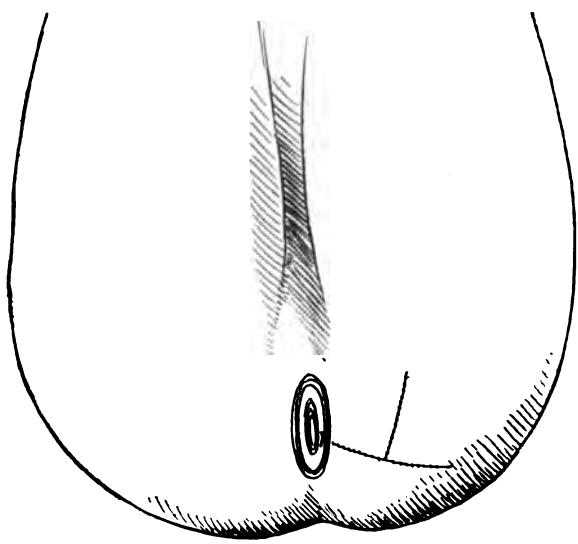
If there is but the mucous membrane do not make an opening through it into the bowel, but make the incision entirely external, carefully avoiding the sphincters. After removing all infiltrated tissue, close up the wound, making it as aseptic as possi-

(FIG. 4)

ble, and in this way obtain union by first intention. I advocate a thorough preparation in all cases for operation. An evacuation of the bowels thirty-six hours before, by means of a cathartic and an enema; a liquid diet with rest in bed. Two hours before the time for operation a colonic flushing until thorough evacuation, then a preparation of the field of operation by the usual method, as carefully as for any other region. In my description of this operation I will attempt to be plain, and by the aid of the sketches try to give the details as carefully as possible. Sketch No. 1 represents a complete fistula with a blind channel, or a complete and an external incomplete one, showing the tracts, or canals, with the openings. Now I purpose making an incision down to the pyogenic membrane and up to, but not involving, the two sphincters. The probe or director can be introduced into the fistulous tract as a guide. But instead of following along this instrument, as is customary, I cut down upon it until I reach the canal tissue. If we divide the tract, make the incision into it instead of along its course; infectious material will escape into the wound and very probably infect it.

In sketch No. 2 I present the tracts in the process of being dissected out with the knife or scissors, beginning at the external opening and following up until all the infiltrated tissue is removed. Carefully avoiding any injury to the sphincter muscles, dissect out the internal opening, which can be easily done if a little time be taken. Everything now being removed, as in sketch No. 3, we are ready to close the wound, first closing the internal opening by introducing the finger into the rectum, as we see in sketch No. 4. We see the finger of the operator pressing out the internal opening into the external wound ready for closing, this closure being effected by means of catgut sutures, introduced short of the mucous membrane, but not into the rectum. After this opening is closed and returned into the rectum, then close the entire wound with deep sutures.

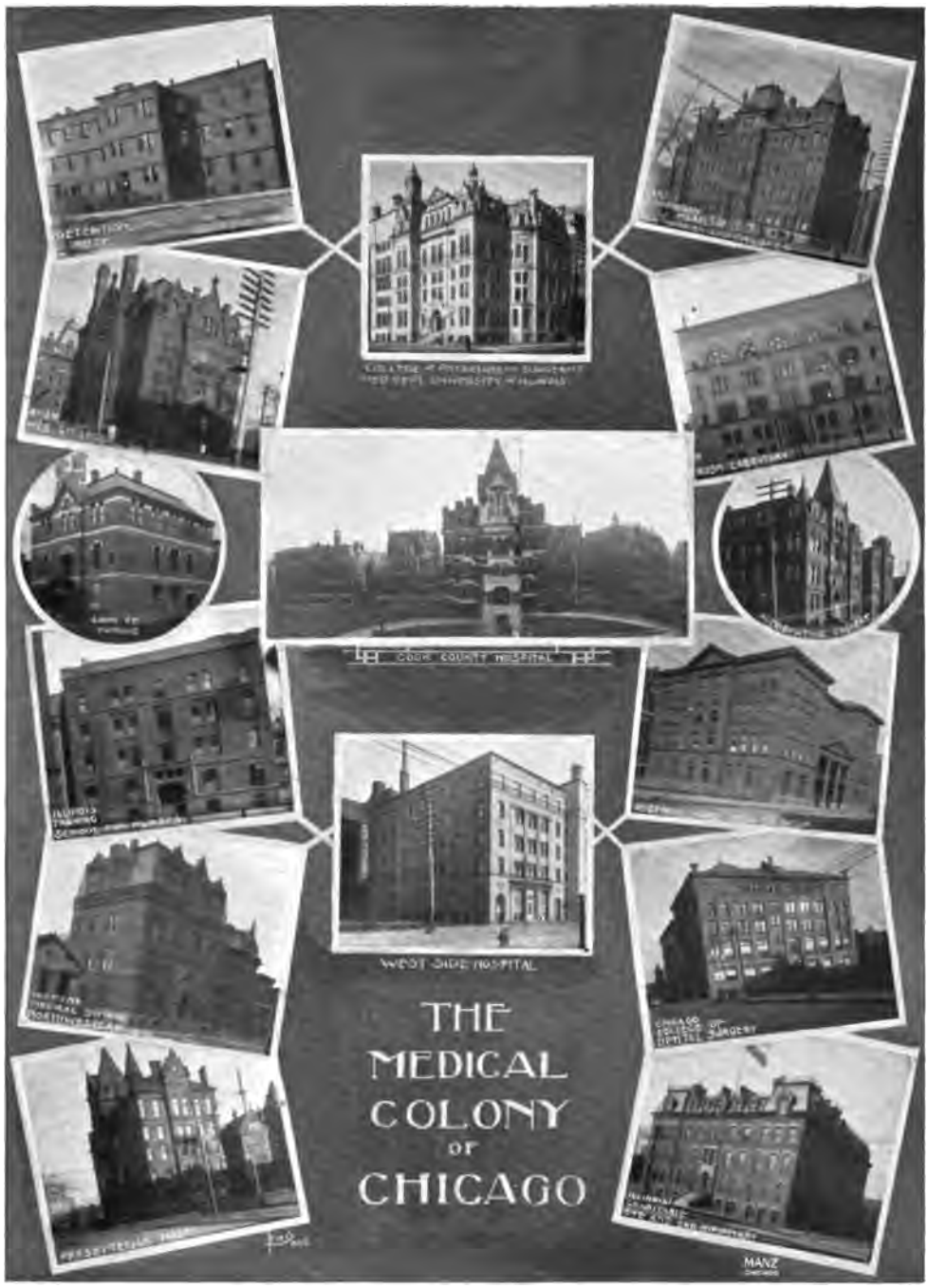
The edges will be coapted, as represented in sketch No. 5, and you may readily expect union by first intention. Should a portion of the wound by any accident become infected it will unite in a short time, inasmuch as portions heal much more read-



(FIG. 5)

ily than the entire wound. It is my custom to use very little, if any, packing; keeping it absolutely clean is much more effective. I advocate the closing of all fistulas by suturing the wound after it has been thoroughly cleansed of all infiltrated tissue.

I have used this method for several years



The CHICAGO CLINICAL SCHOOL is located in the center of the Medical Colony of Chicago, and within one block of all of the above institutions with the exception of the Mary Thompson Hospital and the Illinois Charitable Eye and Ear Infirmary; the street car which passes by the door of the School will take you to the entrance of either of these institutions in less than five minutes.

and must say that it is far superior to a granulated wound, as it gives much more satisfactory results. The patient does not become emaciated nor disturbed in health by confinement to the bed, which is absolutely necessary if a granulated wound is expected to heal at all.

I desire to lend my efforts and experience to prevent, as far as possible, the too frequent division of the sphincters. I have here given you a better method, and you will not find it necessary to say to your patient, by way of protection (?) to yourself, as I had a teacher say to me a short time ago, "Say to your patient that there may be incontinence, to protect yourself." This method will not endanger the sphincters. I have been closing 95 per cent. of all fistulous wounds, getting them to heal without the long process of granulation. If it should become infected from some cause within the result will be even more satisfactory than if it had to go through the process of granulation in the entire wound, and, at any rate, the ununited part can be treated and will soon heal.

100 State street.

Different Phases of Ileus.

Occurring the same day in the Practice of DR. J. B. MURPHY.

Case I (No. 1723): Mr. P. D., age twenty-four; married; barber; family history negative.

Previous history: In August, 1897, suffered from an acute attack of appendicitis.

Clinical history, of that attack: Pain, nausea, vomiting, local tenderness and elevation of temperature. He was confined to bed for several days; convalescence slow but complete. He had recurrence of pain July, 1898, which lasted but one day. In September, 1898, he had a second typical attack of appendicitis. In this attack he passed pus in stools and was confined to bed for about three weeks.

Operation October 28, 1898. Appendectomy. The appendix was found adherent and obliterated at the base. After the amputation the stump was invaginated with a Lembert suture. Convalescence was uneventful and he was discharged from the hospital on the eighteenth day.

He remained well until November 28, when he was taken with sudden pain in the abdomen, more marked in the right side just below the margin of the ribs. A few hours later he vomited. The pain lasted all night, until he succeeded in getting a bowel movement in the morning, when it subsided. There was no elevation of temperature and no increased sensitiveness over the area where the pain had been. December 2 had a similar attack of pain, nausea and vomiting; absence of local tenderness and temperature; also difficulty in producing a bowel movement. After a free evacuation the pain ceased. December 7 patient had a third attack. Before each attack the patient was constipated; during the attack it was difficult to produce a bowel movement; there was increased peristalsis, most marked in the right hypochondriac region.

Patient was readmitted to the hospital December 17.

Diagnosis: Mechanical ileus from adhesions of the intestine at the site of operation on the appendix.

Operation December 20: Incision through the outer margin of the right rectus muscle. The constricted coil was readily located. The obstruction was produced by a rotation of the small intestine on its long axis, caused by adhesions which bound it down to the posterior abdominal wall on the outer or right side of the colon. When the colon became distended it displaced the small intestine toward the median line, completing the rotation, as the inner side, at the mesenteric portion of the small intestine, was adherent to the outer portion of the former incision in the abdominal wall. The intestine above the point of obstruction was very much dilated; below it was small and contracted. After the adhesions were liberated the small intestine was displaced toward the median line, and an omental flap sewed over the entire abraided surface to prevent a subsequent adhesion.

The patient's convalescence was uneventful. He was discharged from the hospital eleven days after the operation. There has been no return of the symptoms.

The obstruction was of the obturation variety; it was produced by and its recurrence depended upon the distended condition of the large intestine. The diagnosis was based on the history of the attacks and its etiology was demonstrated in the operation.

Case II: Mr. G. McC., æt. twenty-

seven; American; married; police officer. Admitted to The West Side Hospital December 10, 1898. Operation December 20, 1898. Family history negative.

Personal history: Always had good health; drank moderately. For many years has had occasional attacks of intestinal colic of short duration.

Present history: About nine months ago began to have severe colicky pains in the lower portion of the abdomen. These pains would come on suddenly and were sometimes very severe and prolonged. They were occasionally accompanied by vomiting; the material ejected was partially digested food; no blood. There was no blood passed from the bowel that he was aware of, nor does he know that his attacks were accompanied by fever previous to the time of his admission to the hospital. Appetite had been good up to about two months ago; since that time he has been unable to eat solid food, as it produced attacks of colic. Previous to his present illness he had suffered from constipation for years. If the bowels become constipated now, the pain is much more severe. The stool is usually dark. The pain is most marked under the pubic attachment of the right rectus muscle. Preceding the pain there is a distention of the right lower half of the abdomen. The patient has lost twenty pounds in weight in the last seven months. Laterally the pains have become very much more frequent. When admitted to the hospital the patient's temperature was 100.2 degrees; pulse 132.

The case was examined in the clinic and the following noted:

Inspection: Patient emaciated; abdominal wall depressed below the level of the costal arch; walls move freely over the entire surface in inspiration. A slight elevation is noticeable under the lower end of the right rectus.

Palpation: Abdominal wall soft; yields readily to pressure, except under the right rectus; at this point there is increased resistance and pain is produced, although no distinct nodules can be felt.

Percussion: Reveals an area of dullness in the lower portion of the right inguinal region, and under the rectus muscle.

Auscultation: Increased peristalsis most marked in the right iliac fossa. At the outer margin of the rectus, on a level with the anterior superior iliac spinous process, a distinct whistling sound could be heard following a colicky pain. The peristaltic movements in the intestine could be recognized as soon as the pain became manifest.

Rectal examination failed to reveal anything of importance.

Diagnosis: Mechanic ileus, from tuberculosis of the bowels. The patient was kept in the hospital for twelve days. He was given repeated full meals for the purpose of demonstrating the physical manifestations of his intestinal obstruction. After each meal he would have a severe pain, located under the right rectus muscle, at the point mentioned. There would be marked increase in peristalsis, some nausea and occasionally vomiting. The whistling sound could be heard in every examination during the attacks of pain. The patient's temperature every evening was elevated, reaching as high as 101 degrees. An examination of the feces for bacilli was negative.

Diagnosis: Tuberculosis of the small intestine; obstruction situated under the lower end of the right rectus muscle. Advised laparotomy.

Usual preparations.

Operation: Median incision. The fingers were passed over to the position in which the obstruction had been located by external examination and in the first effort the obstructed point in the bowel was drawn into the field. The bowel was involved in tuberculosis for about fourteen inches of its extent. There were two obstructions, about an inch apart; in one the opening was only as large as the lead in a lead pencil, the stenosis having been produced by cicatricial contraction, and the other opening was almost as large as the lead pencil itself. The latter was closed by a ball of inflamed, elevated and indurated mucosa, that acted as a valve in a bulb syringe. The bowel below the obstruction was about as large as the thumb in diameter. Above the obstruction the bowel was two and one-quarter inches in diameter. The wall in some places was one-half inch in thickness. There were extensive ulcers of the mucosa for the entire fourteen inches; in many spots it was gangrenous. A resection of this portion was made and an end-to-end union produced with the anastomosis button No. 3. When the bowel was opened the most offensive necrotic material escaped, and, notwithstanding great care, infection of the peri-

toneum was produced by this material. The condition of the patient immediately after the operation was very good. The temperature was 98.4 degrees; pulse 82; respiration 20. In the evening the temperature was 100.2 degrees; pulse 84; respiration 20. On the morning following the operation the temperature was 100.8 degrees; pulse 90; respiration 18. At noon the temperature was 101 degrees; pulse 92; respiration 20. There was considerable pain in the abdomen, some tympanites and absence of peristalsis. There has been no free bowel movement in the last twenty-four hours, notwithstanding the administration of many small doses of calomel and free rectal irrigation. At 8 p. m., on the 22d, temperature was 104.5 degrees; pulse 160; respiration 54. Patient's condition grew steadily worse and he died at 12 m. on the 23d.

Autopsy revealed a general septic condition of the peritoneum.

There was perfect coaptation and adhesion of the intestine at the site of resection. The button was still in position, no leakage having occurred. This case was of great interest from the history of chronic intestinal obstruction, accompanied by fever, and while there was no blood recognized in the stools it is fair to presume that he had intestinal hemorrhage. This combination of symptoms of recurrent obstruction accompanied by fever, when associated with hemorrhage, is pathognomonic of tuberculosis of the intestine. Obstruction symptoms could be brought on at any time by administering a full meal.

The point of obstruction was definitely located before the operation. This can be accomplished in a great majority of ileus cases by the localization of the point of pain, by recognizing the area of abdominal distention preceding a pain, and particularly by the aid of the stethoscope during an attack of pain, at which time the stormy peristaltic action indicates the point of pain.

The stethoscope is more valuable in the examination of the abdomen in connection with ileus than it is in the treatment of diseases of the chest.

The extreme infective character of the contents of the intestine accounted for the fatal termination of this case.

Case III: Mr. H., æt. fifty-five; resident of Kinsman, Ill. Had always enjoyed excellent health until the morning of December 13, 1898. After alighting from his buggy, in the usual manner, at his office, he felt a sensation of pain in the left inguinal region. The pain increased considerably in an hour, and was so severe two hours after its onset that he was compelled to return to his home, two miles from town. Four hours later he vomited. The vomiting recurred every five or six hours for the six succeeding days. On the sixth day the vomiting was feculent in character, although there was no formed feces ejected. On the seventh day it was more frequent. The abdomen became distended on the second morning. He was given a number of cathartics, which failed to produce a bowel movement. High enemata of various kinds were administered with no result. Flatus was not passed since the onset of the symptoms. This condition continued until the time of the operation. There was no elevation of temperature at any time during the progress of the disease. The patient's pulse had gradually increased in frequency up to the time of the operation, when it was 120.

Examination December 20, seventh day after the onset of the symptoms: Face was pinched; eyes sunken; circulation in the extremities feeble; skin cold and clammy; respiration 32; pulse 124, and temperature 97.6 degrees. The abdomen was considerably distended; there was a distinct area of dullness in the left iliac region, extending as high as the umbilicus and from the median line to within an inch of the anterior superior iliac spine. This dullness was not movable. Palpation revealed increased resistance over the same area and a slight increased sensitiveness over the left internal inguinal ring. The inguinal canal was patulous; the little finger could be readily inserted. There was a small induration with increased resistance on the outer side of the internal ring.

Inspection showed a stable elevation over the area of increased dullness and resistance, i. e., the abdominal wall did not rise and fall at this point as in other places. The peristaltic movements of the intestine could not be detected on inspection.

Auscultation revealed increased peristalsis after manipulation. The point of the most active peristalsis was one inch above the left external inguinal ring and just to the left margin of the left rectus. This indicated the location of obstruction. Peristalsis was increased over the abdomen in general. The patient had a very severe mitral lesion.

Diagnosis: Obturation, mechanic ileus.

Point of obstruction, the neighborhood of the left internal inguinal ring.

Notwithstanding the patient's unfavorable condition laparotomy was advised.

The patient was in a farmhouse two miles from the city and the only assistant a nurse and the attending physician. On account of the severe cardiac lesion the doctor had to devote his entire attention to the anesthetic. The clergyman was prepared as an assistant to hold the retractors.

The instruments, sheets, etc., were sterilized by the aid of heat, and an ordinary kerosense lamp supplied light.

Operation December 20: Median incision. On opening the abdomen a large distended coil of intestine came into the field from the left; a small contracted coil was brought up from the right; the fingers were now passed over in the direction of the left internal abdominal ring and it was found that the intestine was confined at that point. A careful examination revealed that there was a sub-peritoneal pocket to the left of the inguinal ring; a knuckle of intestine had become caught in this pocket and a complete obstruction to the fecal current had been produced. It was difficult to bring the margins of the pocket into a position where they could be seen and divided without injuring the intestine. Traction upon the intestine was not permissible, as it was feared the portion incased in the sack might be necrotic and there would be a perforation and escape of feces into the peritoneal cavity. Finally the edge of the sac was elevated with the finger and divided with the scissors. This allowed the escape of the incarcerated portion of the small intestine, which did not exceed two inches. Examination of the intestine showed that it was not gangrenous; the circulation was rapidly restored. Chromacized catgut in a cervix needle was used as a suture to close the orifice of the peritoneal pocket. The abdominal incision was approximated with a figure-of-eight silkworm gut suture. No drainage. Time of operation, twenty-two minutes.

The patient's condition was extremely critical. He was given a quart of saline solution subcutaneously, which revived him considerably. Half-grain doses of calomel were administered every fifteen minutes until six grains were given. Strychnia and caffein were administered hypodermatically. The patient rallied; the following morning he had two free bowel movements. His stools were regular from that time and he did not have an unpleasant symptom. He presented himself in Chicago five weeks after the operation. There is a firm abdominal union. The figure-of-eight suture, which I use almost exclusively in closing abdominal wounds, is inserted in the following manner: An ordinary silkworm gut is threaded to two needles, one at each end. One needle is inserted from the peritoneal side outward, including the peritoneal and posterior rectal aponeurosis. The muscular tissue is pushed back and the same needle is passed through the anterior aponeurosis. The second needle is inserted through the peritoneum and posterior aponeurosis in the opposite side of the wound. The muscle is pushed back and the needle passed back through the interior aponeurosis. The needles are then brought across the wound and inserted through all the tissue above the rectus sheath, including the skin. When this suture is tied we have brought together the same tissues that are anatomically united to form the linea alba; in other words, we have a second linea alba. This, I believe, gives the strongest union that we are able to produce after a celiotomy. If drainage be indicated, one or two of the sutures are not tied until the drainage is removed. The sutures should be inserted every half inch. We have by this method the same effect as a double row of sutures without having a "hurried" suture.

The absence of temperature in case I and III is in consonance with all cases of mechanic ileus, not associated with ulceration, i. e., there is never a primary elevation of temperature with mechanical obstruction of the intestine.

In Case II the tubercular ulcers caused the temperature and not the intestinal obstruction.

It is to be regretted that a careful auscultation of the abdomen is so rarely made in arriving at a differential diagnosis in acute abdominal lesions.

100 State street.

A Plea for Pelvic Cellulitis and Peritonitis.

By F. F. BRYAN, M. D., Georgetown, Ky.
Member of the American Medical Association, Mississippi Valley Medical Association and the Kentucky State Medical Society.

I advisedly use this heading, hoping to cause a stop in retrogression. If we should again lose sight of these all-important diseases what untold suffering will be entailed on our female patients? What blunders would blot our profession? How would we drift in darkness when the light was ours? The like has occurred in science before, and certainly is in danger of repetition in the case of pelvic cellulitis and peritonitis. The modern history of these diseases begins in 1679 and goes up to date, a fact of itself strongly evidencing the variance of opinions entertained. Wiesman of England, in 1679, gives it mention under the name of distemper of the uterus in childbed. Puzos, in France, in 1743, calls it Depots Laiteux. Recamier's pupil, Burdon, nearly one hundred years later, in 1841, describes it as fluctuating tumor of the true pelvis. Doherty of Ireland calls it chronic inflammation of the appendages of the uterus. He is here the forerunner of Tait, seeing the class of cases that by the genius of Tait has so revolutionized gynecology.

In 1844 we have three writers: Marchal de Calvi giving it the name of intra-pelvic-phlegmonous abscess, while Churchill of Ireland and Lever of England call it Abscess of the Uterine Appendages. It is thus apparent how, after being appreciated, it was twice neglected and nearly forgotten, for close to two centuries, and then in close succession it is revived by the labors and observations of four investigators, followed in 1846 by Nonat, who did more than anyone else, up to his time, to aid in the appreciation of this subject.

In 1869 T. G. Tohams, in 1880 T. A. Emmet, in 1889 Lawson Tait, have respectively written on it. While there has been an unlimited number of laborers within this period whose works are valuable, these three are pure types of the views entertained, and have had the greatest attention paid to their views. It will be well to quote verbatim from Tait. He says: "In the employment of the terms 'peri metritis and para metritis,' as introduced by Virchow, who knew nothing about gynecology, and advocated by Matthew Duncan (who had never had his fingers inside the pelvis from above), we have introduced a wholesale confusion into gynecology which will take many years yet of industrious work to get right." This confusion has been vastly aided by Dr. Emmet's teachings about cellulitis. If "parametritis" and "pelvic cellulitis" be relegated to their proper places—and they may be taken to mean the same thing—it is one of the rare conditions we have to deal with among the special ailments of women. Now Emmet says, "I shall employ the term cellulitis as expressing the most common condition of pelvic inflammation in connection with the non-puerperal diseases of women. I do not exaggerate, when I claim that pelvic cellulitis is by far the most important one with which woman is afflicted. It is the most common and becomes the most important, in being comparatively seldom recognized when limited in extent. But I do not hesitate to make the assertion, as a truth based on my own knowledge, that many practitioners habitually neglect to recognize this condition, when circumscribed, or they do not appreciate its importance if by chance or accident it be detected. Many of the bad results and disappointments so often complained of in the management of diseases of women in general practice may be attributed to the existence of unrecognized cellulitis. A great advance in the treatment of diseases of women will be made, whenever practitioners become impressed with the significance of cellulitis, so as to apprehend its existence in every case." He further states that very great advances have been made in uterine pathology and therapeutics, but an intimate study of the pelvic cellular tissue, in its normal and morbid states, will bring to us a solution of many problems which still perplex us. I may not be able to recognize that every form of uterine trouble is preceded or accompanied by changes in the cellular tissue, yet I believe that further observations will show that those forms in which they are absent are relatively few. Now it is after this further observation, which has certainly demonstrated the accuracy of the quotation, that I champion them and as emphatically deny in part the teachings of the renowned Tait. He who has done so much has yet overlooked that whereby he might have been very nearly

faultless. Further, what he did and what he has tried to teach others would be more lucid and the indications more luminous had he avoided that one step backward.

It would be well to think of some expressions of Goodell on this point. In 1887 he says, "It is a subject of infinite importance, but of obscurity so far as pathology is concerned." He tried to solve these matters by a series of pertinent interrogatories. The third of which is, "What are the channels of infection?" Here he was at the threshold of a truth, which, if he properly understood its import, he failed to make it plain. For in truth the womb and vagina are but incubators, not gateways, but the cellular tissue of the pelvis and its contained structure, blood vessels and lymph channels, are the highways of travel for the living organisms, whose life's history and destruction are the cause of inflammation here as elsewhere.

Traumatism is a factor only in opening an avenue at one time by a breach of continuity and thereby removing a layer of epithelium able to offer an obstacle to infection. Again, traumatism acts to weaken or stop in a locality the blood current and thereby invite a colony that the cells could destroy under more favorable conditions. Goodell, in his views, leaned greatly toward the predominancy of the peritoneal type, and he gives Coe, Welch and Polk to support his views. Now, these authorities do not deny cellulitis, but they consider peritonitis at once more frequent and more important. Yet a cursory perusal of their autopsies and operations shows that in many instances preformed conclusions have influenced their interpretations of their own recorded facts. For eighteen years it has been my fate to learn, like Emmet, how indefinite was the knowledge we possess of these diseases. But it remained for me to learn, in 1889, that there was, on account of this very lack of well-grounded knowledge, a disposition in high quarters to be led astray by Tait's errors and that of the French school, who were, in fact, his followers. This was more especially developed by the discussion of a paper I had read before the Fayette County Society, and afterward by contact with practitioners with whom I was called in consultation, as well as those members of the profession who, having gone abroad, had confined their studies to the English-speaking countries.

Now having entered the above reasons as the plea for the retention of the name, and recognition by these names for these all-important troubles, I will confine my remarks to the disease as it manifests itself to me, with my methods and results of treatment. The time allotted here will only permit of a superficial statement of these views, and not of any full revision of this all-important matter.

The cellular inflammation may occur at any point below the pelvic roof where connective tissue is found. The peritoneal likewise may be located at any point in the pelvis covered by peritoneum, and this is everywhere from before backward and from side to side. Never is there a case of pure cellulitis, and never one of pure peritonitis, for one or the other tissue will be most involved in every instance, but both must and do give signs of involvement. Never is the case one of simple cellulitis and peritonitis, but always tubes, ovaries and other organs and viscera will form their anatomical and physiological relationship be involved. The parts involved will be determined from the materies morbi producing the disease and the location of entrance. Practically this is not essential in all cases, nor is it always possible.

Autopsies and operated cases show the position of the lesion in the following places: Behind the uterus, in the ovaries, between the uterus and rectum, extending into the broad ligaments, behind the uterus and vagina, extending into the left broad ligament and connecting with a large accumulation of pus reaching up to the sigmoid flexure, in the broad ligament alone, in the recto-uterine pouch and tissue beneath this pouch, behind the rectum and under psoas muscle, between the bladder and uterus. Now these are pus cases, representing the suppurating stage of the predominant cellular inflammation, in which, of course, as complications, peritonitis, ovaritis, salpingitis and endometritis will in every case be more or less manifest. If cellulitis is the predominant condition, it will terminate in resolution, assume a chronic form, or early suppurate, while the predominant peritoneal type will resolve, assume a subacute or chronic form, with all the reflex and trophic symptoms so common, and from all varieties of adhesions, with changes of location and aberration of

function in the parts involved and those in the same locality.

An analysis of my own last twenty cases (including one seen with my former pupil, Dr. W. D. Scott) of abdonimal section, in which I gave especial attention to evidences corroborating or contradicting the views here laid down, I find Case No. 1 cirrhotic ovaritis and atrophy of the pelvic cellular tissue; history of post-puerperal infection. Evidently a cellulitis. No. 2 not being done for pelvic disease, on the one hand might be disregarded, on the other, being a male and appendicitis being the cause, it brings out a point of analogy between sexes, also cellular and pelvic inflammations, that makes it of use in this connection. Infection entered from the appendix and produced to all intents and purposes a pelvic abscess. In other words, a suppurative type of pelvic cellulitis and peritonitis in the male. Infection by route of alimentary tract instead of genital. No. 3 was a case of ectopic gestation, which had ruptured before I was called in consultation. Such general disorganization had occurred that it may well be said that nothing escaped. The rupture was between folds of the right broad ligament, consequently a traumatic cellulitis was the primary point of departure developed, following the hemorrhage. No. 4, soft fibroid, no inflammatory lesions of cellular or peritoneal tissues. No. 5 ovarian cyst, no cellular or peritoneal inflammation. No. 6 Tait's operation, for unbearable dysmenorrhea and Jacksonian epilepsy, tubes and ovaries indurated and inflamed, no adhesions, lesions evidently originated in cellular tissue. No. 7 acute intestinal obstruction, general dry peritonitis, a knuckle of intestine found incarcerated under a band extending from uterus, above the utero-rectal pouch, to rectum. Evidences of old cellulitis, with predominant peritonitis. No. 8 large multiple hard fibroids, no evidence of inflammatory changes. Here, however, we would do well to investigate further the connective and fibrous tissues, that more knowledge as to etiology and possibly prevention, as well as other methods of treatment, might be evolved. No. 9 history of repeated attacks of cellulitis and peritonitis for fifteen years. Starting with parturition, rectal symptoms very annoying and prominent. Connective tissue, ovaries and tubes inflamed, and the latter imbedded in plastic exudate, discovered with difficulty owing to exudation and infolding, with adhesions, worst on left side. No. 10 tubercular peritonitis; this was Dr. Scott's case. Ovaritis and salpingitis were present and the evidences were that infection had occurred originally by the genital route; the cellular tissues were much involved. No. 11 cirrhotic salpingitis and ovaritis in a virgin, dating from early menstrual difficulty, and probably influenced by the eruptive fevers, no adhesions, changes confined to cellular structure. No. 12 gonorrheal ovaritis and salpingitis. Adhesions abundant and firm, serous fluid in tubes. Here peritonitis had predominated. No. 13 was much the same as No. 12. No. 14 cirrhotic atrophy of the pelvic organs following childbed, with marked debility and general trophic derangements. No adhesions; lesions consisted of induration of all the organs and parts in the pelvis coming in contact with cellular tissue. No. 15 large accumulation of pus in right broad ligament, opening it up and extending nearly to the kidney. No. 16 ovaritis and salpingitis; ovaries much enlarged, prolapsed, with adhesions. Cellulitis was evidently the original point of departure. No. 17 ovaritis and salpingitis following an attempt to cure dysmenorrhea by some operation, either division or discission. No adhesions, evidently a cellulitis. No. 18 pus in right broad ligament, some slight adhesions in pelvis, ovaries and tube inflamed, cellulitis again. No. 19 is another of the cirrhotic type and is in no way of importance different from No. 14. No. 20 is a repetition of No. 15, except the left broad ligament was the seat of the pus accumulation and it extended behind the rectum. The history connected its origin with childbirth eight years previously.

The causes are direct and exciting. The direct are all micro-organisms, having a toxic power, the best understood being the streptococci, staphylococci, gonococci, cancer protozoa and the tubercle bacilli. The exciting abortion, parturition, metritis, ovaritis, traumatisms from coitus, operations, pessaries, the escape of fluids into the peritoneal cavity through the Fallopian tubes. I deem it undesirable to enter seriatim into the rationale of these causes in this paper. The symptoms of the acute cases coming after abortions, parturition and instrumentation, except in the most

virulent, septic types, have a well-marked chill, with fever, pain, rectal and vesical tenesmus, sanious discharge from the uterus, sometimes fetid, in some purulent. The chill may be repeated with new involvements and relapses. I have seen as severe a chill in these cases as we have in malaria or pneumonia. The temperature will rise suddenly up to as high as 104 or 105, though as a rule only 102 or 103 is reached. Evening exacerbation with subnormal morning temperature is frequent. The pain is severe, and if the mind is unclouded is much complained of, but in all cases the facial expression is indicative of suffering and anxiety. Rectal and vesical tenesmus will be present, and one or the other will predominate in proportion to the extent and proximity of the lesion to the bladder or rectum. Many patients will insist on having enemas or cathartics, believing that they can thus be rid of what seems to be an intolerable foreign substance to them.

The quantity and physical properties of the discharge will depend on the nature of the infecting organisms and what is contained in the uterine cavity. Should there be retained products of conception, so long as they remain profuse flow will be present. If only pathologic nutritive changes in the endometrium, slight flow will manifest itself regularly, with excessive flow at intervals in some patients. Cases of less intensity occur unconnected with parturition or abortion. In these we have the above picture without the chill or fever or only a trivial temperature. We may have a very frequent and important class in which the only or most prominent symptoms are debility, weight in the pelvis and an evening hectic. Our suspicions being aroused by the symptoms, a physical examination will make positive the diagnosis.

When it is considered the various locations, the varying extent and stages of the changes, it is easy to understand how different will be the sensations conveyed by the fingers to the brain. In the early and acute cellular type, we find the vagina hot, diminished secretion, less open from tumefaction, and we are able to determine that the trouble is below the roof. This I deem very important. Later effusions into the cellular tissues produce a palpable tumor, changing the position of the uterus toward point of least resistance. Later yet, should pus form, fluctuation can easily be detected, though not in all cases. There are chances of error, insomuch that for lack of fluctuation the tumor may be mistaken for fibroids or hematocele, which facts should be remembered in differentiation. It is likewise excusable, for in May past I operated a case of this kind, No. 15 of this series, in which nature had followed her custom to protect from a source of danger by adhesions and a thick wall, using everything available for the purpose; and so full and tense was the sack that a forcible impression of fibroids was given me. But location and intimate relation to the pelvic walls, together with the history, prevented error; case No. 20 gave the same impression.

Just in proportion as the serous structures predominate in the lesion, just so far will we find in the early stages a boardlike hardness of the pelvic roof. An apt simile has been used to convey the impression of cellular inflammation, as that of a tallowy resistance, in contradistinction to that produced by the peritoneum, which is likened to plaster-of-paris or dealboard. Later on tumors will be detected above the pelvic roof more movable than those below the roof. These thickenings are diseased tubes, ovaries and adhesions. In all cases I would strongly advise that the examination be considered incomplete unless exploration per rectum is had. This history and appropriate physical examination should now prevent these diseases from being mistaken for fibroids or a hematocele.

We come now to the treatment. On this much has been said, as would be natural to cover so many diseased manifestations. I shall consider the treatment under two heads, medical and surgical. In the investigation of these diseases it appears that each man who has entered the field has recognized the stereotyped methods, but has felt it incumbent to add his own methods, which have had a savor of his own especial mechanical predisposition. The surgeon will cut. The mechanical genius will use a pessary. The orthopedist will column the vagina, imitating extension and counter extension. The good old practitioner will only need medicine. The fact is, that all of these procedures are valuable, and he will enjoy the greatest triumph who avails himself of them all.

In every case it is evident that the best

possible sanitation, including the organic functional activity that each case may be in need of, is to be enforced. Absolute rest in the acute cases must be had and maintained; passive exercise may be needed in the chronic cases. Supporting but easily digested food, leaving little solid residue, is to be had at three to four hour intervals. In all cases the hot douche is to be used after Emmet's method. Not a little warm water, but gallons of hot water; not a fountain syringe, but one by which impact can be had. Not a metal tube, but glass or, preferably, a hard rubber one, in which there is no central opening, but large-sized openings at the side, permitting the water to be delivered at an angle. Hot fomentations over the hypogastrium in acute cases; blisters and counter irritants in the chronic. Morphine given hypodermically, at first ¼ or ½ grain every three hours, until the patient is comfortable, then 1-6 or ¼ of a grain every six or eight hours. Do not pay the least attention to the idiosyncope; give the hypodermic in spite of it. Atropia can be used with the morphine if the stomach is irritable. If this is done faithfully I am sure that the number of chronic cases would be comparatively few.

In the acute cases do not give tonic, especially iron or quinine, at all in pelvic troubles. It should be needless to say this, but I am constantly being reminded that it is more usual for the average practitioner to give them than not. My attention was first called to the fact that these drugs were harmful in pelvic inflammations, by cause of their tendency to increase pelvic congestion, by Charles Carroll Lee, in 1886, and his views are certainly correct in this respect. I wish to emphasize that he who will administer opium, as here advised, and strictly adhere to the line of treatment laid down, and under no circumstances allow himself to be swerved, will in every instance ultimately be satisfied with the result. The pupil, pulse, respiration, temperature and the patient's expression are the guides to the time and the quantity to give. There is no more sure antipyretic in any disease than morphine is in this. Keep temperature below 102, respirations below 22, pulse below 90, pupil slightly contracted and the patient, with a feeling of comfort and freedom from pain. I understand that Tait has opened the abdomen in these acute cases with some success. With evidences of impending danger, with symptoms of sepsis or predominant peritoneal inflammation, I would certainly feel that it was the thing to do, for before I was aware of this procedure on his part I had conceived the idea that no case of peritonitis, from whatever cause, should be allowed to die without the abdomen being open, and that early enough to give hope of success from washing, drainage and injections of magnesia sulphate.

If the case has gone on to the formation of pus, the infallible rule to evacuate it by the most feasible route should be followed. Here, it is my conviction, that dark surgery is bad; by this I wish to be understood that none except the most trivial and superficial accumulations of pus in the pelvis should be evacuated by the vagina, but one hand should be inside of the abdomen. The pus should be found with a trocar and on the trocar scissors should be introduced, when, by opening the blade, the opening will be enlarged to a sufficient size to enable the finger to enter, while the hand in the abdomen above removes all possibility of accident due to the operation. Most pus cases may be easily dealt with in this manner. But in event that it is deemed desirable to make an opening into the pus cavity from above, it will be at once easy and advisable to anchor the sack in the lower end of the incision, or, if tension and adhesions prevent, pack gauze pads around the area of danger; exacuate by trocar or aspirator, when it will come forward and permit of being so stitched as to make even a retroperitoneal accumulation of pus which has reached up from the pelvis and opened the posterior fold of the broad ligament, entirely extra peritoneal in its final dressing and treatment. This method I have followed twice of late, with highly satisfactory results.

Drainage is best secured by a rubber tube going through both the vulva and the abdominal incision. Rubber dam dressing over the tube, surrounded by gauze, will prevent soiling of the dressings. The character and amount of the discharge will be the indication for the removal of the tube. In event that an opening is made into the pus sack on its peritoneal surface, and it is afterward found to be impracticable to fix it in the abdominal wound, it is safe and easy to close the opening into the sack by

any suture that will fold two peritoneal surfaces on each other.

That class of dry or plastic cases which form such a large contingent of female sufferers, who drag through years of torture, should have the general medical treatment to improve the general health, and local applications with chloral and glycerine, iodoform tampons, glycerine tampons, iodine and the regular office routine. If there appears to be a demand for support, pessaries, provided they are tolerated by the parts, will be of advantage. In these cases Bozeman's crumning is of value, and sheep's wool is to be recommended on account of its elasticity and because it refuses to pack and harden as cotton wool does. If after a fair trial the patient is not deriving the desired relief, these cases should also be relegated to surgery, when conservative repairing should be done by knife and needle, in the way of removal of such parts as can no longer exercise functional activity, breaking up adhesions and maintaining in suitable positions, by stitching, damaged parts out of harm's way. In many of these cases of cirrhotic atrophy of the pelvic contents, such profound nutritive and nervous derangements occur as to frequently make it imperative to remove the uterus and its appendages, by a vaginal hysterectomy, or, preferably, by the abdominal route.

In my experience but few of the so-called cases of subinvolution call for the removal of the uterus. I consider these areolar hyperplasias of Thomas and chronic metritises of Bennett to be a type of post-puerperal infection of the cellular kind, and deal with them by a trachelorrhaphy and curettement, and afterward, in some very intractable cases, by a removal of the appendages, when even the most intractable will usually obtain relief.

The conclusions, therefore, which I am forced to draw from these cases is, that cellulitis and peritonitis are important manifestations leading to the greatest amount of suffering that woman is heir to; (2) that their recognition and the retention of their nomenclature should keep us constantly on the watch for them; (3) that their proper treatment in their early stages will obviate these latter evils to a great extent, as cellulitis and peritonitis are easily curable in the early acute stages; (4) that should opportunity for an early cure not be offered, then the chronic cases should have the medical and minor gynecologic treatment mentioned, under which many will be cured, others obtain relief, and a respectable quota will of necessity have to turn to surgery for their cure. Of the cases above mentioned all except one were properly of this latter class, and all recovered of this class.

Immunity: Recent Theories.

Dr. W. G. Thompson believes that:

1. The phagocytic action of the leucocyte in combating infection is of but little importance, and is mainly concerned in the removal of waste products rather than the devouring of live bacteria.

2. The leucocytes probably secrete substances which are both inimical to living bacteria and antagonistic to their toxins. The antagonism may be through digestion of the toxins and through counteracting the irritant effect of the toxins upon the general tissues of the body.

3. The antitoxins of the serum, whether artificially injected or developed within the body, do not act by chemical neutralization of the toxins, but through stimulation to greater resistance of either the leucocytes or the tissues, or both.

4. The blood itself, neither through its leucocytes nor through its serum, is capable of producing the phenomena of permanent immunity. To a limited extent only can it be relied upon for the prohibition of toxic symptoms.

5. It remains for the tissues to offer the final combat against the toxins and to develop a more or less permanent immunity. To this effort they may be incited by either toxins or antitoxins, in addition to the exercise of the inherent property of living protoplasm to resent irritation of any sort.

It is probable that natural immunity does not differ in kind from acquired immunity, which has been perpetuated for an unusually long period through succeeding generations.—Gaillard's M. J.

CHICAGO CLINICAL SCHOOL.

The following operations were performed in the West Side Hospital, during the month of January, the students in attendance at the Chicago Clinical School being present. Compiled by Senior Interne Dr. Bebb:

10 Herniotomy.
2 Varicocele.
8 Appendicitis.
3 Salpingectomy.
2 Oöphorectomy and Salpingectomy.
3 Ovarian Cyst.
4 Trachelorrhaphy.
4 Perineorraphy.
10 Tonsillotomy.
2 Tonsillectomy.
1 Hysterectomy.
1 Pelvic Abscess.
1 Alexander Operation.
1 Cystotomy—Vaginal.
1 Intestinal Obstruction.
1 Cholocystectomy.
7 Adenoids.
2 Cholocystostomy.
3 Exostoses—Nasal.
2 Deflected Septum.
4 Curettement.
1 Carcinoma of Breast.
1 Carcinoma of Axillary Glands.
1 Carcinoma of Cervical Glands.
1 Osteomyelitis.
1 Excision of Knee-joint.
2 Amputation of Finger.
1 Clubfoot—Subcutaneous Tenatomy.
1 Clubfoot—Phelp's Operation.
1 Tuberculosis of Hip—Curettement.
1 Exostosis at Elbow following fracture—Removal.
1 Sarcoma of Sup. Maxilla.
1 Tympano-mastoid Operation.
1 Removal of Ossicles.
1 Empyema of Antrum.
2 Dislocation of Hip (1), seven months' standing—Reduction.
3 Fracture of Nose.
1 Nasal Spur.
1 Cysto-Sarcoma.
2 Hemorrhoids.

Anatomy and Operative Surgery on the Cadaver.

The Clinical School has, since its organization, ever evidenced not only a willingness, but a determination to furnish for its students the best and most numerous advantages, both general and special. Among the recent improvements and additions made is the establishment of a special course as above indicated. These courses are conducted under the personal direction of Professors F. R. Sherwood and W. T. Eckley. Special work on any line desired may be obtained, as eye, ear, nose and throat, gynecology, abdominal surgery, etc., etc.

The following course will cover the needs of most of those who may contemplate work of this kind:

a. Dissection by the student, under the personal direction of Prof. Eckley.

b. Operative surgery by the student, under the personal direction of Prof. Sherwood.

The course offers the following advantages:

a. Classes limited to four members.

b. Each class has the exclusive use of two full subjects; one for dissection, the other for operative surgery.

c. Special attention is given to the regional dissection of surgical areas; dissections are made on one of the subjects one night, and, with the anatomy fresh in mind, operative surgery is done on the same surgical area on the other cadaver the next night.

d. The anatomical course includes the dissection of the entire body.

1. Head and neck.
2. Axillary space.
3. Joints.
4. Inguinal.
5. Femoral.
6. Thoracic.
7. Abdominal.
8. Pelvic regions.

e. The operative course will include:

1. Ligation of the important arteries in continuity.

2. Amputations, exarticulations and resections.

3. Trephining for cerebral localization; ligation of middle meningeal; mastoid operation; removal of Gasserian ganglion.

4. Operations upon the thorax, tracheotomy, etc.

5. Operations upon the abdomen and pelvis; special attention is given to the different operations for hernia, varicocele, hemorrhoids, intestinal anastomosis, appendicitis, gastro-enterostomy, suprapubic cystotomy, etc.

6. Gynecological and genito-urinary operations.

7. Aside from the above any operation that may be desired by the class will be demonstrated.

The Chicago Clinic.

A HIGH-GRADE MONTHLY PERIODICAL DEVOTED TO THE MEDICAL PROFESSION.

J. HOMER COULTER, M. D., Editor.

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819 W. Harrison St., Chicago.

THE DEFENSE OF HONORABLE MEDICINE.

Anent the defense of the medical profession as it has been undertaken by Mr. William Warren of Parke, Davis & Co., in the "Medical Age," we have received the following letter:

Memphis, Tenn., Feb. 13, 1899.

Editor Chicago Clinic:—At the regular annual meeting of the Tri-State Medical Association of Mississippi, Arkansas and Tennessee, held in Memphis, December 20, 21 and 22, 1898, the following resolutions were adopted:

"Whereas, The medical laws of the various states have been so perverted by political influences as to give legislative sanction to grotesque, ignorant and dangerous sects of pretenders and charlatans; and,

"Whereas, The privileges granted to one of the most outrageous aberrations, namely, the so-called osteopathy, constitute a disgrace to the states in which the 'osteopathists' are legally intrenched; and

"Whereas, A certain William Smith, osteopathist, having been roundly denounced, together with his sect, by Parke, Davis & Co. and the 'Medical Age,' now brings suit against both for $25,000 damages; therefore be it

"Declared the sentiment of the Tri-State Medical Association of Mississippi, Arkansas and Tennessee that Parke, Davis & Co., and the 'Medical Age' are entitled to the sympathy of its members and of all medical practitioners; that we wish and expect them to enjoy a complete triumph in repelling this legal assault, and that wherever a powerful house takes a bold stand in opposition to quackery it promotes the interests of legitimate and honorable medicine and the welfare of humanity."

RICHMOND MCKINNEY.
Secretary.

When the various state legislatures will have been brought to a realization of the best interests of the people and will have passed such measures as will prevent incompetents from entering the state, then, and not until then, will any reputable journal be free from the danger of annoyance and expense in combating such suits as that referred to in the above resolutions.

If you ask how this may be done, I will say, in the words of the able editor of "Medicine," in a recent editorial on a similar subject: "We feel that there is no possible remedy for this evil excepting a law separating the diploma from a license to practice. The latter alone should qualify. All first-class institutions of medical learning should earnestly unite in the support of the bill now pending before the Legislature of Illinois, in which it is proposed to place the licensing power in the hands of a state board of medical examiners. We can see no possible reason for objection to such a law on the part of any institution. If there be objection, it can come from no other reason that that such institution fears that its graduates may not be able to pass the required examination." C.

WHO WILL IT BE?

Perhaps no question is so universally popular just now among all members of the American Medical as to who shall be the successor of Dr. Hamilton as editorial manager.

There are presumably about two hundred medical editors in America who "would not refuse" an offer of the position on account of feeling unable to properly and successfully fill the position. The "Fortnightly" editor takes a very positive and decided stand in saying, among all the possible candidates, "there is one who stands head and shoulders above his fellows, and, judged from all points of view, is preëminently the man for the place." Now the editor in question was evidently not present at the meetings which made either Dr. Culbertson or Dr. Hamilton editors, or if present his memory is faulty, else he would have recalled the turmoil caused on the latter occasion when the board made one of its members editor.

We are not, however, at this time opposing the candidacy and election of anyone to the position. We are glad to see the name of Dr. Love mentioned. We recognize the power of his trenchant wit and facile pen reflected each month in his poplar "Mirror," as very sufficient evidence, were more than acquaintance necessary, that he could successfully and satisfactorily edit the "Journal."

But to the statement that any one man "is preëminently fitted" for the place, we must take exceptions. The man who possesses those qualifications, from the very natural result of such ability, could not be induced to take the position at twice the salary and an increased emolument of honor.

The position is one of such importance to the association, and to each of its members, that it certainly should not be decided hastily. We have sufficient confidence in the character and judgment of the majority of the board to believe that politics cannot enter into the consideration; that they have ready for action an introspective conservatism which will elect to the position that one who has, in their opinion, the brightest powers of mind and heart, coupled with an intelligent and conservative judgment born of experience, and who has at heart the interests, not of the editor, but of the association and its journal. C.

P. S. Since the above was in type the board have held their meeting and have elected as editor Dr. Geo. H. Simmons of Lincoln, Neb., editor of the "Western Medical Reporter." Dr. Simmons has demonstrated his ability in the success which has attended the "Reporter." We congratulate the board on its choice and believe that its judgment will be fully approved by the association. We congratulate our friend Dr. Simmons on the attainment of the honor which he has won by virtue of his perseverence, intelligent ability and professional integrity.

DR. JAMES H. ETHERIDGE.

The faculty of Rush Medical College seems to be peculiarly and sadly fated this year. Two of its best known and most popular professors taken suddenly away in so short a space of time is quite sufficient cause for more than the ordinary sadness which is felt at the passing over of a friend.

There are, indeed, few, if anyone at all, among the faculties of Chicago medical institutions who would be more generally and sincerely missed by the graduates for the past twenty years than will he who was so popularly known as the secretary of Rush. Scarce had the habiliments of mourning for Dr. Hamilton been removed from the lintels and door-posts of the college when they shall be replaced for the memory of Dr. Etheridge, who died of heart failure February 10. Not yet had it been determined who should attempt to fill the vacancy left by Dr. Hamilton when an even greater void is made. The faculty

now have a doubly onerous and important duty to perform, one, too, which will be of unusual significance, both because of the prominence of the departed in their especial lines and because of the number of the possible successors in both this and other cities. Dr. Etheridge had been connected with Rush almost constantly since his graduation, twenty-five years ago. At the time of his death and for some years past he has held the chair of gynecology, as well as being secretary of the college.

Dr. Etheridge appeared at the college as usual, and after the sessions returned to his home. The family retired early and shortly after 11 o'clock Mrs. Etheridge was aroused by the heavy breathing of her husband. He was conscious and told his wife he was suffering from heart trouble. Drs. E. J. Doering, E. Fletcher Ingals and E. R. Ogden were summoned and when they arrived Dr. Etheridge had almost lost consciousness. Half an hour later he breathed his last. C.

MINISTERS' AND DOCTORS' BILLS.

Detroit City, Minn., Jan. 27, 1899.

Dear Sir and Editor:—I have read with interest several articles printed in the January number of the Chicago Clinic, and wish to speak of one in particular, and, if I may be granted the courtesy of your columns, to answer the same.

The article in question is, "Should Ministers Pay Doctors?" That much I answer with a most emphatic Yes. Ministers should be glad to pay a doctor bill, and every other honest debt. Thus far there is no disagreement between the writer and myself. But I am nevertheless hurt at what I believe to be an unjust and unwarranted conclusion, that the clergymen, as a rule, so far disgrace the cloth as to ask or even expect concessions from the professional or business world, solely on the ground that they are clergymen. I am sorry the writer is so nearly like the common sinner as to generalize from exceptions. I have made it a rule of my life, as far as possible, not only to "live at peace with all men," but to follow, also, the injunction to "owe no man anything," especially the doctor and the printer, and, farther, not to presume to set a price on another's professional ability, goods or labor.

That I am not an exception in this particular I am well convinced, for I know it is taught both by precept and example among the majority of my ministerial friends. I believe that with no class of professional men is there found a greater spirit of justice and right than among clergymen, and, not only this, but that they are examples of benevolence and charity. I cannot therefore acknowledge that it is right for a fellow-man to assume the rôle of Tobiah the Amorite and point a finger of scorn at a class of men whom as a whole I believe worthy of honor and respect (and many of whom have sacrificed chosen professions for conscience sake), and all because there are among them, as among the members of every profession, some unworthy of the name. For my part, I would recommend not only to ministers, but doctors as well, this plan: If at any time forced to run a bill, borrow the money at a reasonable rate of interest and pay it. Though personally I have never had occasion to do this, I nevertheless feel that it is an honorable procedure, and would in the end prove highly satisfactory to all concerned. As for me, in the language of another, "I am bound to live within my means if I have to borrow money to do it."

In conclusion let me say, the words of the writer, had they been simply spoken to the unfortunate individuals needing such rebuke, would have prompted no objection, but when given a general application through the "public press," in honor bound we must defend ourselves from hasty conclusions. Let justice prevail in all things and to all men; better still, in the language of the "Immortal Lincoln," "With malice toward none and charity for all."

Humbly asking the grace of your columns for so long a letter, I am most truly yours,

E. L. BROOKS,
Pastor Cong'l Church.

We are doubly pleased with the above letter, first, because it demonstrates that there are some, and, as the writer claims, doubtless a very considerable number, of ministers who do pay their physicians as promptly and adequately as they do their grocer or market man; secondly, it is a pleasure to entertain an amicable discussion of so practical a matter. We believe the good Parson Brooks has preached one of the best sermons of his life in the above letter, and we suggest that our readers who have ministerial patients who come under the category referred to in our last issue be handed a copy of this month's Clinic, or if you do not care to call their attention to it, send us their names and sample copies will be sent them.

It must be admitted, however, as a too general fact, that a large number of physicians, especially those in smaller towns, expect and receive no cash compensation for professional services in the families of ministers. We believe the custom is fast becoming an obsolete one, and fortunately so for both.

The relation of the physician and pastor are too sacred, too close, too important, to be weakened or nullified by the existence of unfulfilled obligations on the part of either. There may be more of the fault, too, with the physician than some of us would willingly admit. For instance, if your pastor has spoken kindly of you to his parishioners, he doubtless did it with the confidence that you were deserving, and not with the idea of thus relieving himself of a doctor's bill. So do not put him in the undeserved and frequently disagreeable position of a suppliant, by refusing his proffered cash, or failing to send him a bill proportioned as you would a business man earning a similar salary. Only thus will you maintain his respect, both remain independent and of assistance to each other.

We venture the opinion that the Rev. Brooks would be the last minister in Minnesota to write a testimonial for any patent nostrum of which he knew nothing. Would to heaven there were a larger proportion of his type in the noble profession which he honors!

C.

MEDICAL AND DRUG LEGISLATION.

Never before has there been so much legislation of pertinent import to the physician before the lawmakers at Springfield at one time as there is at present.

The bill for the establishment of a state board of examiners will doubtless be put upon its passage before the session is ended. That it is destined to meet with some very considerable opposition is now admitted by all interested, but after the expense and hard labor which the committee representing the different legitimate schools have so generously put upon this bill it will indeed be most unfortunate if they have not aroused sufficient enthusiasm in the physicians of the state to insure its passage.

The late Dr. Hamilton very truly and pointedly remarked, a few days before his death, when speaking of this subject, "The profession of Illinois can blame themselves alone if they do not have within one year such legislation as they need." Unfortunately, the profession in general are neither such astute prophets nor such influential politicians as was Dr. Hamilton. Nevertheless we believe his words are a literal truth and that should the present bill fail to become a law a few more years of annoyance will bring them to the necessary recognition of their duty.

The committee of the Illinois State Medical Society have just sent out the following circular:

"The efforts now being made by the reputable medical men of the state to secure the enactment of laws having for their object the suppression of the horde of

quacks which now infest our state have had the effect (as was expected) to arouse their ire and opposition. In their frantic efforts to defeat the bill as agreed upon by the various medical organizations of this state they are appealing to the passions and prejudices of the people, by resorting to most willful and malicious misrepresentations of what our bill is intended to accomplish. You doubtless have received letters from the 'People's Protective Association.' This is the name adopted by an aggregation of quacks and disreputables of every kind and character whose interests are threatened by our bill. In these letters they represent that the bill which we have presented to the Legislature is in the nature of a trust, that it provides for an annual examination of all those now engaged in practice and in divers ways seeks to build up what they are pleased to call a 'medical oligarchy.'

"The facts are these: The bill which we present provides for a State Board of Medical Examiners and that those hereafter entering upon the practice of medicine in this state shall be examined by this board before they shall be licensed to practice. The other provisions of the bill are merely the necessary details to carry the examination into effect. The renewal clause, to which reference is made, is simply to secure a complete registration of the physicians of the state, and the small fee charged goes to the support of the board, which will be self-sustaining. This, however, is a mere matter of detail, and, because some objection is being made by reputable physicians, will undoubtedly be left out of the bill.

"This will be a battle royal, in which all the quackish interests of the state (which are largely located in Chicago) are arrayed against legitimate medicine. There is no question as to the result if every self-respecting physician in the state will only use his influence to defeat them.

"The Legislature is, for the most part, composed of intelligent men, who will vote right on this question if we point the way. They will very reasonably expect that every physician who stands for the purity and uplifting of his profession will make it known by writing at once to his representatives in the Legislature, indorsing the principles embodied in our bill. It is useless to quibble over details, as these must be modified to suit the views of legislators.

"Do not fail to write at once to each member of the Legislature from your district. Designate the bill introduced by our committee that your members may know to what bill you refer."

Apropos to the above bill, and one calculated to arouse quite as much opposition, is the bill introduced in the house by Representative Kettering, a Chicago druggist, the object of which is to limit the use of poisonous and dangerous drugs to physicians' prescriptions. Only those who are so blind they will not see can fail to recognize the humane, reasonable and legitimate cogency of such an act.

The number of powerful and truly dangerous drugs which pharmaceutical science has been giving to the medical profession has increased in the past few years almost as the months have passed. In the hands of physicians who have an opportunity to study the physical condition of the patients these agents have no doubt been of incalculable good, but, perceiving the promptness with which these remedies relieve pain, innumerable "proprietary" remedies have been put on the market with some one or more of these violent drugs as the principal ingredient, and are sold to all alike as "harmless." The injury resultant upon the indiscriminate use of these potent drugs by ignorant persons is appalling to contemplate, and the Legislature should make a continuation of such a state of affairs impossible by restricting the sale of such articles to physicians' prescriptions.

While many physicians and pharmacists are opposed to the sale of any medicines which are to go to the people without the

intervention of a physician the question of "ethics" involved in that contention does not enter into the discussion of this bill. There are many honorable men engaged in the "proprietary" medicine business and their remedies are not only harmless, but if properly used may be productive of excellent results. These remedies will not in any way be affected.

But the turkey buzzards, who, hiding under the skirts of the honorable "proprietary" medicine manufacturers, seek to reap a harvest of gold at the expense of life or reason, must go elsewhere than to Illinois to ply their nefarious traffic. There is but one question involved in the bill and that is "Is the medicine poisonous or deleterious to health?"

If it is not then its sale is unrestricted. If it is, then it must be surrounded with such restrictions as will prove a safeguard to those not knowing its composition and who might be lured on to death or, even worse, the soul-destroying cocaine or morphine habits.

Mr. Kettering is fortifying himself for a hard battle on the bill, as it is expected that the affected interests will mass their batteries to prevent its passage. Statistics as to many cases of death, insanity, morphine and cocaine habits, etc., which are directly traceable to these agencies, are being prepared and Mr. Kettering thinks he will be able to produce an array of facts that will be startling.

Again we say, write your legislator and assure him that your influence for his re-election depends upon his support of the Kettering and Curtis bills, and he will support them like a man. C.

Professor Roentgen, discoverer of the X-rays, has been called to the chair of Physics at the University of Leipsic from the University of Wurzburg.

An Accomplished Surgeon.

The versatile Dr. T. C. Minor, in some recent French translations, gives us the following glimpse of old professional life in France:

In beautiful Champagne the old advertisement of a surgeon-barber has just been uncovered. It reads:

"Isaac Macaire, clerk of the parish, barber, surgeon, shoemaker, school teacher, blacksmith and accoucheur. Shaves for one sou, cuts hair for two sous. Uses powder and pomade for well-raised young ladies and gentlemen, teaching them the polite language and manners of their grandsires. He teaches music, singing, and also blacksmithing. He also mends boots and shoes while you wait. Teaches the hautboy and the guinborde, cuts corns, puts on leeches, and bleeds. Gives rectal injections, teaches the cotillion and other modern dances. Sells perfumery, salt herring, spices, brushes and confections.

"P. S. He also teaches geography every Wednesday and Saturday, God aiding. (Signed) Isaac Macaire."

What effete modern surgeon has all these accomplishments?

To His Delinquent Patient.

If I should die to-night—
And you should come to my cold corpse and say,
Weeping and heart-sick, o'er my lifeless clay;
If I should die to-night—
And you should come in deepest grief and woe,
And say, "Here's that $10 that I owe,"
I might arise in my great white cravat
And say, "What's that?"

If I should die to-night—
And you should come beside my corpse to kneel,
Clasping my bier to show the grief you feel;
I say, if I should die to-night—
And you should come to me, and there and then
Just even hint 'bout paying me that ten,
I might arise a while—but I'd drop dead again.

—Gross Med. Col. Bul.

ABSTRACT.

Relative Advantages and Disadvantages of the Abdominal and Vaginal Routes in Pelvic Surgery.

The following excellent abstract from Dr. E. C. Dudley's recently published work was prepared for the "Medical Review of Reviews" by Dr. S. C. Stanton of Chicago:

The controlling advantages of the abdominal route are these:

1. A larger field for operation; more room for work.

2. The operator may see what he is doing instead of depending largely upon touch.

3. Diagnosis of unsuspected conditions and complications is much easier.

4. The abdominal section is adapted to large tumors and pus sacs, and to conditions high in the pelvis.

5. The appendages may be removed with better chance of avoiding rupture of a pus sac.

6. Less danger of wounding intestines, bladder or ureters, and greater facility in the control of hemorrhage.

The advantages of the vaginal route in suitable cases are as follows:

1. Gives better drainage, and is therefore specially adapted to cases of vesical or intestinal fistula.

2. Avoids abdominal scar and risk of ventral hernia.

3. Is suitable for cases of small tumors without high adhesions.

4. When properly performed it lessens the danger from shock, and is therefore suitable for cases of extreme pelvic infiltration which are inoperable, because too dangerous, by the abdominal route.

5. There is less handling of the intestines and therefore less consequent danger of intestinal adhesions.

6. Recovery is less complicated and more rapid.

Unfortunately, the vaginal route is, for at least a very large proportion of cases, impracticable. The long, narrow virgin vagina, or the vagina which has become contracted from senile atrophy, may render the field of operation almost inaccessible. A very large uterus, with exceptionally short, thick, broad ligaments and greatly enlarged appendages, with adhesions extending beyond the reach of the finger, may also be difficult or impossible to manipulate through the vagina. Under such conditions the abdominal route is much safer.

In many cases it is well to begin the operation in the vagina and continue by that route as far as the greatest safety will permit, and then, if necessary, open the abdomen and complete the operation by the combined vaginal and abdominal method. Conversely, the abdominal section may have to be supplemented by the vaginal. The combined operation may be the deliberate purpose from the beginning, or the necessity for it may become apparent only in the course of the operation.

In an uncertain proportion of cases the advantages of the two routes are so evenly balanced that either is permissible; the election must then rest with the individual bias of the surgeon. The choice of procedures has in a measure been forecast in the description of special operations already described.

Throwing aside the bias of the individual operator, whose efficiency may be greater along the route of his own greatest experience, and estimating the vaginal operation on the basis of its absolute value, there will remain a large proportion of cases in which it may be done more safely. In such cases it is the operation of election. The general proposition, therefore, is: First, operate through the vagina so far as practical, i. e., when the diseased ovaries and tubes are low down near the vagina and within reach of the finger; second, operate by abdominal section when they are extended high up in the abdominal cavity beyond the reach of the finger.

The frequency with which the vaginal route will serve for the entire operation will increase with the experience and practice of the operator. A dexterous vaginal operator will easily overcome difficulties which, without abdominal section, would be to the ordinary surgeon impossible.

It will be seen from the above that each method has its special advantages and disadvantages. Some of these last are less real than they seem; for example, an objection to vaginal hysterectomy is that it affords only a limited field of operation and

small chance for visual control of the work. This does not necessarily appeal to the skilled operator. The danger of hemorrhage is an avoidable one if due precautions are used. Injuries to the bladder, ureters and intestines may occur with either method, but in vaginal hysterectomy the perfect drainage makes them less dangerous if they do occur.

The operator should not permit his prejudice in favor of either route to lead him to pursue it to the extreme, for that part of an operation which is easy by the vagina is often most difficult by the abdomen, and vice versa.

Etiology of Puerperal Fever.

Regarding the general facts as to the etiology of puerperal fever, I believe the profession is practically in accord at the present day. Here is a field where we can pin our faith to the gospel of prophylaxis with the utmost confidence that we will not be disappointed. There are few lines on which preventive medicine can be practiced so absolutely. What vaccination is to variola; what modern sanitation and quarantine are to cholera; what the guarding supply of water is to typhoid fever—all this, and with even more certainty, is surgical asepsis to puerperal fever. I do not mean to insist upon all the details of what may be termed fussy asepsis; some of it even, such as the routine use of the vaginal douches, I firmly believe to be harmful asepsis. The previous sterilization of the vulva, the use of sterilized napkins and pads, sterilized gowns for accoucheur and nurse, are all well enough; they are refinements of the art, but in my opinion they are not essentials. The essentials, as I see them, are surgically clean hands and instruments. Hands and instruments are the danger points. The ease with which the not overcareful physician may introduce septic matter into the vagina may clearly be seen. He rushes from a case of scarlatina, or perhaps from lancing a foul abscess, or dressing a septic wound; the washing of his hands is likely to be more thorough after his examination of the patient than before—if, indeed, he takes the trouble of a preliminary wash at all—and in go the streptococci, Klebs-Loeffler, etc. A forceps delivery becomes necessary, and his instruments are produced from a bag in which he has carried them about from case to case for months; and, after a preliminary dip in a carbolic solution, in they also go with a load of bacteria; and in a few days the physician is wondering at his "bad luck" at having on his hands another of those troublesome cases that occur so often in his practice—and on his hands, literally, he has carried the cause of the trouble, and similarly conveys it to his next unfortunate obstetric case. Not always is it an unseen germ which such a practitioner introduces, but in some cases it is actually a septic wound or sore on his own hand that kills his patient, or makes her a chronic invalid.

There are those who claim that the occurrence of a case of puerperal sepsis is clear evidence of malpractice on the part of the attending accoucheur or nurse, or both—a statement which is probably too severe. I am free to admit that this disease may in rare cases occur apparently in spite of every precaution. It is no exaggeration, however, to say that the willful neglect of any preventive measure during the lying-in period constitutes one of the grossest types of malpractice.—Dr. S. A. Hitchcock in Cleveland Med. Gaz.

Smallpox Is Epidemic.

Department of Health, City of Chicago,
Jan. 29, 1899.

Smallpox is spreading throughout the world to an extent not equaled since 1893. "Public Health Reports," the official organ of the Marine Hospital Bureau, our national health service, records the recent invasion of nineteen states and sixty-three localities by the pestilence in this country alone, and the newspapers add daily to the number. Some of these localities are within a few hours' distance of Chicago, and it is not only possible that there are concealed or unrecognized cases of the disease in the city at the present time, but it is more than probable that persons from infected localities are daily riding in our street cars, associating with our citizens in public places, and even visiting in our homes.

When the contagion becomes so widespread as it now is, it is obviously impossible to prevent its introduction into a new city like Chicago, with its numerous means of communication with the rest of the country. Sooner or later the disease is sure to find its way into the city by some unsus-

pected and unpreventable method. Once introduced—especially at this season of the year—its spread among the susceptible is inevitable.

No degree of cleanliness of the individual, or of hygiene in the household, or of municipal sanitation, will protect the susceptible against contracting smallpox if exposed to its contagion. The one certain and only safeguard—tested by the experience of the century—is effective vaccination.

As commissioner of health, charged with the protection of health and life, upon which our municipal welfare and prosperity depend, I earnestly urge upon every citizen to see to it that he himself and those dependent upon him are thoroughly and promptly protected against this loathsome pestilence. Parents and guardians cannot escape the charge of blood-guiltiness if, failing to secure this protection for their charges, death follows an attack of smallpox—a disease of all diseases the most positively preventable.

Employers and others having charge of wage-workers, especially garment-makers and textile fabric handlers, should give this matter attention, from pecuniary considerations if no other. Similarly as to railway employes, who are particularly exposed, and the employes of manufacturing establishments, department stores, etc. It should be made a condition of further employment that all such persons present satisfactory evidence of protection against smallpox by recent successful vaccination or revaccination.

The remembrance of the late smallpox epidemic, that of 1893-94, should be still fresh in the public mind; but few, probably, realize its cost to the community. The 3,076 cases and 1,033 deaths of that epidemic represent, according to the eminent authority, Dr. Benjamin Lee, a money loss of $2,581,000, to which must be added the enormous losses from damage to business, suspension of industries, interruption of travel and traffic and injury to commercial reputation.

It only remains to add that the glycerinated vaccine of the health department is now at the highest standard of purity and efficiency; that its proper use causes the minimum of discomfort and insures absolute freedom from any danger of infection of other diseases, as well as from the painful "sore arms," unsightly scars, and other drawbacks which attended the former use of vaccine "points."

While the department prefers that the vaccination should be done by private physicians, it is ready and anxious to vaccinate without charge all who are unable to pay for the operation.

ARTHUR R. REYNOLDS, M. D.,
Commissioner of Health.

Western Ophthalmologic and Oto-Laryngologic Association.

Program of the meeting held at New Orleans, La., on Friday, February 10, and Saturday, February 11, 1899:

Welcome address by Dr. Chas. Chassaignac, New Orleans. Response by Dr. B. E. Fryer, Kansas City, Mo.

President's Address, Dr. J. Elliott Colburn, Chicago.

Address—"Historical Notes Relating to Strabismus and Other Anomalies of the Eye Muscles," Dr. Geo. T. Stevens, New York.

Executive session.

Reports of committees.

"The Treatment of Acute and Chronic Glaucoma," Dudley S. Reynolds, M. D., Louisville; "Profuse Hemorrhage Subsequent to Extraction of Senile Cataract," B. E. Fryer, M. D., Kansas City; "Luxation of Both Lenses Giving Rise to Glaucoma," A. R. Amos, M. D., Des Moines, Ia.; "Some Experience with Dr. Gould's Method of Prismatic Exercises," Cassius D. Wescott, M. D., Chicago; "The Percentage of Color Blindness to Normal Color Vision as Computed from 308,919 Cases," J. A. Mullen, M. D., Houston, Texas; "Some Experiments with the Giant Magnet," Hamilton Stillson, M. D., Seattle, Wash.; "Treatment of Diseases of the Lachrymal Duct by Cataphoresis, with Exhibition of Cupped Sounds," C. F. Keiper, M. D., Lafayette, Ind.; "Further Observations Concerning the Check Ligament," J. Elliott Colburn, M. D., Chicago; "Glioma of the Medulla, with Report of Autopsy and Microscopical Examination," Casey A. Wood, M. D., Chicago; "Spontaneous Hemorrhage of the Nasal Septum," Marcel Natier, M. D., Paris, France.

"Synopsis of the Functions of the Eustachian Tube, Mastoid Cells, Tensor Tympani and Stapedius," Thos. F. Rumbold, M. D., St. Louis; "Vicarious Men-

struation through the Intact External Auditory Canal," K. K. Wheelock, M. D., Ft. Wayne, Ind.; "Diagnosis and Treatment of Incipient Laryngeal Cancer;" discussion on "Diagnosis," Drs. Max Thorner, Cincinnati, and M. A. Goldstein, St. Louis; discussion on "Treatment," Drs. W. Scheppegrell, New Orleans, and Geo. Knapp, Vincennes, Ind.; "The Principles of the Therapeutics of Stuttering," R. Coën, M. D., Vienna, Austria; "The Indications for Middle Ear Operations," W. L. Ballenger, M. D., Chicago; "The Offending Middle Turbinate," Edwin Pynchon, M. D., Chicago; "The Relation of Trachoma of the Conjunctiva to Diseases of the Nose," C. Ziem, M. D., Warsaw, Russia; "Collective Investigations as to Relative Frequency of Adenoids in Different Parts of the Country," E. C. Ellett, M. D., Memphis.

"The Best Vision After Cataract Extraction," W. E. Driver, M. D., Norfolk, Va.; "A Case of Bell's Palsy and Epilepsy Cured by Correction of Ametropia and Heterophoria," L. R. Culbertson, M. D., Zanesville, Ohio; "Injuries of the Eyeball, with Report of Cases," E. O. Sisson, M. D., Keokuk, Ia.; "1899 Skiascope," J. Ellis Jennings, M. D., St. Louis; "Study of Conjunctival Ulceration," H. McI. Morton, M. D., Minneapolis; "Congenital Arrest of Development of the Cornea," K. K. Wheelock, M. D., Ft. Wayne, Ind.; "A Report on Operative Treatment of Myopia," H. V. Würdemann, M. D., Milwaukee; "The Etiology and Importance of Iritis," H. H. Brown, M. D., Chicago; "The Pathology of Cataract," Adolph Alt, M. D., St. Louis.

"The Surgery of the Accessory Sinuses of the Nose," Augustus McShane, M. D., New Orleans; "Empyema of the Accessory Sinuses of the Nose." W. W. Bulette, M. D., Pueblo, Colo.; "Medication of the Tympanic Cavity," M. A. Goldstein, M. D., St. Louis; "Agorophobia in Relation to Diseases of the Ear," A. A. Guye, M. D., Amsterdam, Holland; "The Importance of the Early Recognition and Treatment of Catarrhal Diseases," W. Scheppegrell, M. D., New Orleans; "Fifty Mastoid Operations, Including Four Brain Abscesses and One Perforation of the Sigmoid Sinus," D. Milton Greene, M. D., Grand Rapids, Mich.; "A Case of Temporal Abscess Drained Through the Attic After Ossiculectomy and Curettement," Hamilton Stillson, M. D., Seattle, Wash.; "The Radical Treatment of Fibroid Nasopharyngeal Polypi," E. J. Moure, M. D., Bordeaux, France.

"Refraction of Trachomatous Eyes," E. E. Hamilton, M. D., Wichita, Kan.; "Large Tumor of the Brain Encroaching on Motor Area and Causing Few Symptoms Save Optic Neuritis, with Remarks on Double Neuritis as a Sign of Brain Tumor," J. Moores Ball, M. D., St. Louis; "Some of the Failures, Immediate and Remote, Encountered After Cataract Extraction," J. Morrison Ray, M. D., Louisville; "Keratitis Herpetica," S. S. Ledbetter, M. D., Birmingham, Ala.; "Ulcerative Keratitis and How to Cure It," R. F. Lemond, M. D., Denver; "Series of Cases of Keratitis, with Reports of Blood Extermination," E. C. Ellett, M. D., Memphis; "Uric Acid as a Factor in the Causation of Choroiditis," Randolph Brunson, M. D., Hot Springs, Ark.; "An Ophthalmologist's Experience with the Army," J. J. Kyle, M. D., Marion, Ind.; "Persistent Pannus Cured as a Result of Acute Dacrocystitis," J. Ellis Jennings, M. D., St. Louis.

"Indications for Operative Interference in Chronic Suppurative Otitis," Norval H. Pierce, M. D., Chicago; a paper, St. Clair Thompson, M. D., London, Eng.; "Congenital Nasal Atresia," Hal Foster, M. D., Kansas City; "Laryngeal Disturbances in Diseases of the Nervous System," John Sendziak, M. D., Warsaw, Russia; "Tuberculosis of the Tonsils, Pharynx and Larynx," W. T. Grove, M. D., Eureka, Kan.; "Tubercular Ulcers of the Pharynx," W. L. Dayton, M. D., Lincoln, Neb.; "Diagnosis and Treatment of Tubercular Laryngitis," George Knapp, M. D., Vincennes, Ind.; "The Diagnostic Importance of Cough," Fayette C. Ewing, M. D., St. Louis.

The Rex Carnival Ball, occurring at this time, made the time and place an especially attractive one for holding the meeting, so that the attendance was much more than would have been ordinarily anticipated. The program, too, is excellent.

ITEMS.

Why isn't a quack physician a skin doctor?

Why should well water ever be unhealthful?

Time heals all wounds. Money is also a great heeler.

Patience is all right in its place, but it is better to back tenacity to win.

Why isn't the patient in danger as long as the doctor continues to visit him?

Many a man who thought himself wise has been declared otherwise by a jury.

Dr. T. S. Hoyne, an old resident and popular practitioner of the South Side, died February 6 as a result of a surgical operation for pyonephritis.

The very active preparations already going on by those interested in the meeting of the American Medical Association at Columbus next June augurs well for an interesting meeting and one of more than usual scientific worth.

Surgeon-General Sir James Mouat, who died recently at the age of 83 years, won the Victoria cross at Balaklava by volunteering to go out and dress the wounds of an officer lying in an exposed situation under the Russian fire.

An eminent Indian medical officer is satisfied that the growth of sunflowers in malarial soil is better than eucalyptus as a preventive of malaria. The government of India is making extensive experiments to demonstrate its correctness.

Invalids should eat lightly and rest immediately after meals. Cultivate cheerfulness during meals. Never eat when angry, sad or worried, or very tired. Anger changes saliva into a poison. Warm applications for the spine and stomach and between the shoulders are valuable and aid digestion.

In reply to a well-known Boston christian scientist's request for payment the patient is said to have reminded her that she had told him to imagine himself well, and he would be well. He therefore politely said that she had only to imagine herself paid, and she would be paid.

Miss Nancy Reeves, a well-known society girl of Baltimore, has applied for the first vacancy at the Johns Hopkins training school and will fit herself for the duties of a trained nurse. It is her intention to use the experience thus gained in caring for sick persons who are unable to pay for such service.

A bill has been introduced in the New York legislature requiring that in cemeteries where there are more than 100 burials a year mortuaries be established where bodies may be kept until there are unmistakable signs of decay. Germany has a similar law and action of the same nature is being urged in England.

A French physician recently reported to the Academie des Sciences the result of his experiments on blind children. Among 204 he found five boys and four girls who were able to recognize the Roentgen rays. Some saw the X, cathodic and fluorescent rays, others only the cathodic and X-rays, and one described them as being of reddish color.

It has long been evident that the solution of the hernial problem was almost within our grasp, but each new method has in time proved its weakness and been succeeded by others. At the present time success seems once more almost reached through the efforts of McBurney, Bull, Halsted and others in America, and Bassini and many German, French and Italian surgeons in Europe.

In giving a sleep-producing dose, the least possible amount of the drug should be used, preferring to repeat small doses at intervals rather than to begin with a large one; but there should be no fear of giving the full dose when the conditions call for it. With no class of drugs does individual idiosyncrasy have a larger share in aiding or hindering the effect than with hypnotics.

Fair Patient—"Is there no way of telling exactly what is the matter with me, doctor?"

Doctor—"Only a post-mortem examination can reveal that."

She—"Then for heaven's sake make one. I don't see why I should be at all squeamish at such a time as this."—Ex.

The regular lady physicians of Chicago have recently organized a gynecological and obstetrical society for their mutual benefit and protection. Inasmuch as they have been excluded from membership in the similar organization of their male confreres, it is but natural that the new order will be quite exclusive in its rules and regulations.

It is said that a London medical society has reserved a certain number of meetings in each year which will be devoted to a recital of unfavorable cases and to a confession of errors in diagnosis and treatment fallen into by members of the society. Such meetings should be exceedingly instructive if the members are honest in their confessions.—Record.

Bagdad is a promising El Dorado for adventurous European physicians. With a population of more than 130,000 souls, and with climatic conditions which make quite an exceptional demand upon scientifically educated doctors, the ancient capital of the Khalifa has only three resident practitioners who have enjoyed a competent training in European schools of medicine.

Those versed in statistics claim that the same will show the deaths due to water-born disease germs, during the recent war, such as typhoid and similar conditions, were practically nil in the navy, where those engaged always of necessity drank pure distilled water, while in the army, where such conditions did not prevail, typhoid and malaria wrought havoc.

Dr. Duncan Eve of Nashville, president, and Dr. Henry E. Tuley, secretary, of the Mississippi Valley Medical Association, spent a day in Chicago with Dr. H. N. Moyer, chairman of the committee of arrangements, relative to the coming meeting of the association in Chicago, September 12. Much interest has already been manifested in the session, which promises to be a very large one.

Dr. W. G. Stearns, who has for several years held the position of superintendent of the Eastern Hospital for the Insane at Kankakee, recently resigned that position. Governor Tanner, as had been predicted by the public press, immediately appointed Dr. J. C. Corbus of Mendota as the successor of Dr. Stearns. It is reported that the latter will locate in Chicago for the practice of his profession. Dr. Corbus is president of the State Board of Charities and has for many years been prominent in state and local medical societies.

At a meeting held in the office of Dr. E. F. Ingals, on January 19, at which were present about twenty-five of Chicago's nose and throat specialists, the Chicago Laryngological and Climatological Society was formally launched into existence. Dr. Moreau Brown acted as temporary chairman and Dr. Dickerman secretary. A committee on constitution was appointed and some discussion had as to the reception and entertainment of the American Laryngological Society when it meets in Chicago next fall.

On our frontispiece this month will be seen a reproduction of a photograph of a laparotomy by Dr. Chas. Davison. This operating room is one of the several new ones recently added to the excellent surgical equipment of the Cook County Hospital. The new additions and improvements recently made in this already famous institution are in a large measure due to the energy and perseverance of Warden Graham. In the illustration Dr. Davison will be recognized in the taller of the two gentlemen adorned with the sterile crown of the aseptic surgeon.

For sale, in Minneapolis, a general practice of $3,000 per annum. Nice families and good pay. A proper introduction, together with household furniture of a nine-room house, office furniture, horse, carriages, cutter, etc. Everything in good condition and of good quality. Chattels valued at $1,500. A splendid opportunity for anyone wishing to do a city practice. Price, $1,200.

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Alexander Wiener, M. D. Orthopedic Surgeon.
W. L. Noble, M. D., Oculist and Aurist.
Ralph Michel, M. D., Internal Medicine.
T. J. Conley, M. D.

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ALLAN T. HAIGHT, M. D.

THE CHICAGO CLINIC

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The Effects of Tobacco on the Eye.

By ALLEN T. HAIGHT, M. D., Chicago.
Professor of Ophthalmology Chicago Clinical School, Attending Eye and Ear Surgeon to Cook County Hospital and German-American Hospital, Oculist and Aurist to the Illinois State Industrial School for Girls, Member American Medical Association, etc.

The use of tobacco was probably first discovered by the Chinese many centuries ago, as Meyen in his Geography of Plants speaks of having seen on very old sculptures types of the very same tobacco pipes which are now in use. The custom, however, did not spread to neighboring nations, and it was not until after the introduction of tobacco from America that smoking became known in Europe, and afterward very prevalent among Oriental nations. Columbus found that the natives of the West Indies practised smoking tobacco, making it in cylindrical rolls wrapped in maize leaf. Smoking tobacco was found to be an old custom among the North American Indians, they connecting it with their religious ceremonies and all important transactions. The calumet, or pipe of peace, was necessary for the ratification of a treaty, and smoking together with them was a greater token of friendship than eating together was among other nations. It may be interesting to note in passing that tobacco had its European debut in Spain and was first grown there as an ornamental plant, and it was not until Nicolo Manardes claimed that it possessed medicinal virtues that smoking became a prevalent custom.

During the sixteenth and early part of the seventeenth century much was done both by church and state to prevent smoking. In Turkey smoking was a crime. The pipes of smokers were thrust through their noses and the men afterward put to death. In Russia the noses of smokers were cut off; and James I of England described the custom as "loathsome to the eye, hateful to the nose, harmful to the brain and dangerous to the lungs," but in spite of that the custom had come to stay, and to increase as years rolled by.

Of the three forms of using tobacco, namely, snuffing, chewing and smoking, the latter has proved to be the most injurious in producing pathological conditions in the different parts of the body and especially in the eye. This is undoubtedly due to the change that takes place in the combustion of the tobacco, making it possible for the system to absorb more of the poison than in the use of either of the other forms.

The chief characteristic constituent of tobacco leaves, when they are submitted to chemical analysis, is nicotine; they also contain gum, resin, citric acid and a large amount of inorganic substances. Chemical analysis of tobacco smoke shows that it contains, first, a watery vapor impregnated with various substances from which it is easily separated; second, a small quantity of free carbon is always present, and it is to the presence of this constituent that the blue color of the smoke is due. It is this free carbon which in confirmed and inveterate smokers settles on the back part of throat and on the lining membrane of the bronchial tubes, creating often a copious secretion, which it discolors and which is coughed up and is of a dark coaly appearance. Third, there is a certain quantity of ammonia always present, and it is this that gives the smoke its alkaline reaction. It is the ammonia that bites the tongue after long smoking, and also makes the smoker's throat so dry, causing him to drink freely. The ammonia is also a factor in causing the salivary glands to secrete so freely. Fourth, carbonic acid is always present, the amount varying in the smoke of different tobacco. To this agent may be assigned the symptoms of sleepiness, headache and lassitude, which usually follow the prolonged inhalation of the fumes of tobacco. Fifth, tobacco smoke produces a substance known as the oil of tobacco, which contains three substances, the chief

of which is a fluid alkaloid called nicotine and which is highly poisonous. The symptoms of paralysis, palpitation and tremor, which may follow excessive smoking, especially in people not used to indulgence in this practice, is undoubtedly due to the nicotine. Nicotine is readily eliminated from the body and after the system has been subjected to the poison of tobacco smoke a few times a condition of tolerance is usually established.

Tobacco smokers are very liable to suffer from a serious defect of vision, and as early as 1840 Dr. McKenzie attributes amblyopia, then called amaurosis (a term not now used in that sense), to the effects of smoking and cites many cases. After the introduction of the ophthalmoscope by Helmholtz in 1851 it was noticed that the optic disc in some of these cases presented a white appearance. A white appearance of the optic disc and failure of sight, in the state of knowledge at that time, implied atrophy of the optic nerve, and the second plea in the indictment against tobacco was that it caused white atrophy of the optic nerve. This view did not meet with universal acceptance. It was argued that the known causes of atrophy were extremely difficult to substantiate in any given case and that the smoking might be a coincidence; that a custom so widely spread as smoking, if injurious in the alleged manner, would certainly be more frequent in producing ill effects. Inquiries were made among the Turks and Egyptians, who pass their lives smoking, with the result that amblyopia was not common among them. It was argued that no cerebral or nervous symptom accompanied the defect of vision, and it was in the highest degree improbable that the optic nerve should be individually and separately attacked.

So far the friends of tobacco (as regards its benign influence on the sight) seemed likely to triumph. But it was discovered that whereas cases of "white atrophy" as a rule progressed to complete blindness, cases of "white atrophy" in smokers progressed to a certain degree of dullness and then remained stationary. When, further, it was shown by demonstration that cessation of smoking, without any other treatment, was frequently followed by restoration of vision, it became very generally admitted that tobacco must be the effective cause. Consequently the term atrophy (which implies destruction of nerve elements) was inappropriate.[1]

The most benign effect of tobacco on the eye is its effect on the optic nerve fibers, especially those bundles which supply the macular region, a condition known as chronic retro bulbar neuritis or tobacco amblyopia. It is caused by the continued introduction into the system of the poison nicotine, which seems to have a great tendency to produce interstitial neuritis of the optic nerve.

The symptoms of this disease are, first, a very gradual decrease in the acuteness of vision, usually in both eyes, though the effect may be more marked in one eye. The vision gradually decreases until the patient is unable to read, first, fine print, then ordinary, and finally cannot read at all. The patient complains of a mist or smoke before his eyes during the day and that it disappears at dusk and he can see better, a condition known as nyctatopia. If the disease is allowed to develop, large objects only can be distinguished, and in rare cases total blindness ensues.

Examination of the eye shows no external inflammation, the pupils do not react to light or accommodation. In the earlier stages the fundus shows no marked changes, except hyperemia of the disc, but later the disc becomes white and slightly retracted and marked atrophy is present. The field of vision in tobacco amblyopia is very characteristic; at first red and green; undergoes change in color in the macular region, gradually becoming indistinct; finally we have a relative central scotoma. This scotoma is limited to area of nerve fibers from the optic disc to the macular lutea, the remainder of the field remaining normal, so that although the patient may have lost direct vision he is still able to walk about without the characteristic uncertainty of the blind. During all stages of the disease glasses are of no aid to improve vision.

Prognosis in tobacco amblyopia, unless the disease has progressed to almost complete atrophy, is always good. Treatment consists in total abstinence from tobacco and the administration of strychnine, the best results being obtained by using the strychnia hypodermically, in increasing

[1]Liverpool Medico Chirurgical Journal, 1888.

doses from 1-30 to 1-3 of a grain a day, combined with iodide of potassium 15 to 60 grs. t. i. d.

For a number of years there was much uncertainty regarding tobacco being a distinct and separate factor in producing amblyopia, owing to the fact that in nearly every case of amblyopia the subject was not only addicted to the use of tobacco, but also to the use of alcohol. It was argued that the alcohol was the important etiological factor in producing the disease and not the tobacco; inasmuch as it was a well-known fact that alcohol used to excess causes different forms of neuritis. Noyes says it is extremely difficult to separate alcohol from tobacco amblyopia, as they usually combine.

In looking over the literature on tobacco amblyopia, we find hundreds of cases are reported in full with treatment. In a great many instances the treatment has been simply total abstinence from tobacco, with restoration or great improvement in vision. In some cases abstinence from tobacco with strychnine or iodide of potassium, or both combined, good results follow. Others have reported reducing the strength and quantity of tobacco used, with some improvement of vision following; and still other cases are reported in which the use of alcohol was not restricted, but the tobacco stopped, and strychnine administered, being followed by a marked improvement of vision. In no instance do we find that the vision in a case of tobacco amblyopia, has been improved by any form of treatment where the tobacco has been continued.

If the total abstinence from the use of tobacco holds such an important place in the treatment of this form of amblyopia, we must conclude that tobacco is the cause of this disease.

Dr. Skinner reports thirty-two cases of amblyopia from tobacco or alcohol, or both combined, in three of which the disease was so far advanced that two became blind; one was not benefited by treatment and was gradually browing worse; the remainder were either greatly benefited or entirely cured.[2] Eight of these thirty-two were cases of amblyopia from the use of tobacco alone, and in whom interest particularly centers as bearing upon the effects of tobacco. It will be interesting to observe that each and every one possessed a highly irritable nervous organization, or was as well suffering from a somewhat shattered and broken-down nervous system. The vision of the best was one-fourth of normal, and of the poorest counting figures at one meter. Central scotoma for color was present in everyone where the test was practicable. Ophthalmoscopic examination showed marked hyperemia of the optic disc in three cases, decided neuritis in two, and more or less atrophy of the optic disc was present in two.

In order to obtain a greater certainty of knowledge as to the actual influence of tobacco in these cases, their supply of tobacco was cut off and the effect on the eyes noted. In five cases, after one week of prohibition of tobacco, there was much better vision and improved appearance of the fundus; after two weeks, under the same outward conditions, there was so marked an improvement that no further doubt in regard to the influence of tobacco could be entertained. Then the administration of tonic remedies, among which was strychnine and iodide of potassium was instigated. In the remaining three cases, although some improvement was manifest after prohibiting the tobacco, it was thought best to begin vigorous internal treatment on account of this condition, and this was followed by a fairly rapid change for the better.

Dr. Chisholm of Baltimore reports a case of tobacco amblyopia in a woman who acquired the habit of smoking by lighting her husband's pipe for him.[3]

Berry of London, prior to 1884, examined the eyes of women for five or six years for amblyopia, and found it in three cases only. All of these women smoked to excess, but did not use alcohol. Nettleships, Hutchinson, De Wicker, Doyne, Sears, Coleman, Schweigger, Stellwag, De Schweinitz and many others have reported many cases of tobacco amblyopia, and we find that only about 2 per cent of these cases are women.

When we compare the proportion of tobacco poisoning with the total number of tobacco users we see that the percentage is very small. The majority of cases of amblyopia occur after the patient has passed middle life and is on the declining

[2]Maine Med. Jour. 1888.

[3]Am. Jour. of Ophthal.

plane; although, since the introduction of cigarettes, a number of cases of amblyopia have occurred under the age of twenty years.

The disease may attack the inveterate smoker in perfect health, who is surrounded by every luxury in life, and with little care. In about ninety per cent of all cases of tobacco amblyopia we find, however, that associated with the excessive use of tobacco we obtain a history of either general debility, loss of sleep, anxiety, mental depression, nervous shock, starvation, overwork, excessive venery, constant breathing of foul air, diabetes, lithemic diathesis, or some kindred affection which has deprived the system of its power of resistance. It is very necessary, then, in the treatment of these cases that we employ suitable tonics, with the abstinence from tobacco, in order to obtain the best results.

Other than conjunctivitis, which occasionally occurs in those who are occupied in cigar and tobacco factories, caused by the constant irritation from tobacco dust, amblyopia is the only chronic affection of the eyes caused by tobacco.

The acute effects of smoking tobacco are usually confined to the conjunctiva of the globe. Tobacco smoke acts as a direct irritant to the eye, and it is not unusual to see the smoker with one eye closed, especially if he be occupied with his head inclined when smoking a cigar. People obliged to sit in a closed room for any length of time, when several are smoking, usually complain of smarting and burning of the eyelids, and a great tendency to close the eyes forcibly. On examination of the eyes we find marked hyperemia of the ocular conjunctiva, more or less redness of the edges of the lids and acute inflammation of the conjunctiva of the lids.

These symptoms are removed by the application of any mild treatment, such as a saturated solution of boracic acid or hot cloths to the eyes. Continued repetition of the irritation will often finally result in establishing a chronic catarrhal inflammation of the lids. In conclusion I wish to report an acute case, showing the effect of intoxication on the eyes; also a case of tobacco amblyopia, affecting one eye only.

Case I.—Mr. J. G., age 25, wholesale grocer, consulted me April 1, 1897, thinking he needed glasses to correct a blurring of vision of the right eye. He had noticed this difficulty for about six weeks, and a few days previously had by accident discovered that he could not read with his left eye closed.

Vision of the left eye was 20-20 plus and vision of the right eye only 20-200 or 1-10. He was unable to read or write with the right eye; ophthalmoscopic examination of the fundus showed a slight hyperemia of the optic disc with no refractive error. Glasses did not improve vision either for distance or for reading. A marked narrowing of the field of vision for white and central scotoma for colors was present. Patient was a moderate user of stimulants, drinking more beer than whisky or wine. He smoked on an average eighteen strong cigars during the day and a pipe during the evening. He began to smoke at the age of six years, acquiring the habit from taking an occasional draw on his father's pipe. I decreased the amount of tobacco to five cigars per day for three days, then total abstinence from tobacco, and gave increasing hypodermic injections of strychnine, beginning with 1-30 and increasing the dose to 1-3 in ten days. Apr. 15, V. O. D. 20-80; same treatment was continued for four weeks, at which time the vision was normal, the hyperemia of the disc and the central scotoma had disappeared. Patient was advised to discontinue the use of tobacco, but when seen in November, 1898, had been smoking three cigars per day with no bad effects.

Case II.—Mr. H. A., lawyer, age 29, consulted me March 11, 1897, on account of a presumably serious difficulty of the right eye, and gave the following history: While sitting in his office about 5 p. m. reading the evening paper, he noticed a peculiar sensation of fullness in the right eye, followed immediately by a sudden blurring of vision, and on looking up saw everything double. As long as both eyes remained closed he experienced no pain, but on looking straight ahead or from side to side complained of excruciating pain in right eye. On looking at the cable cars he saw one on the track, and another about thirty feet in the air and ten feet to the left.

He came directly to my office. Examination of the eyes showed marked exophthalmus of the right eye, the lids closing

over it with difficulty. The patient was unable to move the eye in any direction, it being firmly fixed, looking downward and a little inward, the exact normal position taken by the eye in reading. Examination of the fundus showed a perfectly normal condition, except for a slight hyperemia of the retina. The pupil reacted to light and accommodation, and there was apparently no lowering of vision. The ocular conjunctiva was slightly congested. The left eye was normal. The patient was in splendid health, and had never had any serious illness. He had noticed a tendency of fullness in his right eye on stooping over on several occasions, but the sensation passed away quickly in assuming an upright position. Patient was not a total abstainer, but was not in the habit of drinking, and had not drank anything that day. He was a mild smoker, using on an average three cigars per day, always after dinner. He had smoked five cigars that day, two on an empty stomach just before dinner and three during the afternoon. The pulse at the wrist was feeble and irregular and examination of the heart showed no valvular derangement. My diagnosis was acute tobacco toxemia, causing a paresis of the vaso motor at the back of the right eye, and the sudden engorgement of the vessels causing the exophthalmus. I gave him 1-30 strychnine hypodermically and 1-100 nitro-glycerine by the stomach. He was given hot foot bath and put to bed. I saw him again at 9 p. m., when no change in the conditions was noticeable. I gave another tablet of 1-100 nitro-glycerine and twenty minutes later all eye symptoms disappeared. About 1 a. m. patient awoke with a second slight attack, lasting only half an hour after taking another tablet of 1-100 nitro-glycerine.

Examination next morning showed eye perfectly normal. Patient was advised to abstain from tobacco, which he did for one year. I saw him in January, 1899, and he had been smoking moderately for a year, with no recurrence of the trouble.

103 State street.

The International Medical Congress will convene August 2, 1900, in Paris. The session will last seven days. It is understood that while French is the official language, German and English will be permitted.

Saturday Lessons in Neurology.

By HAROLD N. MOYER, M. D.
Professor of Nervous and Mental Diseases, Chicago Clinical School.

NEURALGIA OF THE SCALP.

This patient complains of pain in the back of the head; he has had it for the past six months. It did not come abruptly, but within a few days of its onset the pain was very severe. He describes it as a boring, darting or burning pain and it has never been continuous. There are intervals when he is quite free and then it returns with renewed violence, these attacks lasting from a few minutes to an hour.

His recollection of the time of onset is vague, but he was not ill, nor did he have any injury. Prior to the beginning of this trouble his health had been good. He is thirty-four years of age.

We ask him to outline the area of the pain and he draws his finger around an oval surface to the right of the middle line, on the back of the head, about 3x3½ inches, the lower border corresponding with the occipital ridge. Palpating this region with the rubber tip of a lead pencil, we find a tender point in the lower portion of the painful area; firm pressure at this point causes him to flinch. Examination of the side of the neck shows no tenderness over the exits of the nerves of the cervical plexus.

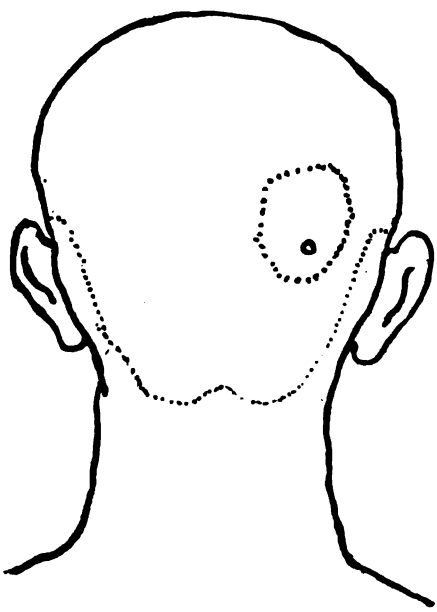
The tender point, the character of the pain and its limited distribution are sufficient to make the diagnosis of neuralgia of the scalp, the nerve affected being the great occipital. The pain area corresponds closely to the distribution of this nerve and the point of tenderness is exactly over the place where this nerve pierces the deep fascia and becomes superficial.

Neuralgias of the scalp are not common and they are frequently confounded with headache. Any nerve in the body may be the seat of neuralgia, but some are much more affected than others; the trigeminal has a bad pre-eminence in this respect. The diagnosis of scalp neuralgia is made by the pain being confined to the distribution of a single nerve or group of nerves, the tender point, and that it is invariably upon one side. The localized headaches, due to syphilis and other constitutional states, are almost always bilateral: those due to neu-

ralgia are sometimes unilateral, but are invariably diffuse. Even if localized, they do not present tender points. While the scalp may be tender, it is generally diffuse and often comes some time after the pain. Localized headaches may be found in hysteria and other functional nervous troubles, but these never follow the distribution of a particular nerve or group of nerves. This is also largely true of the headaches due to eyestrains and other reflex causes.

As to the cause of the pain in this case, we cannot give an opinion; the patient is vigorous; presents no lesion of other organs. We shall not call it idiopathic, as in so labeling it we might mislead; we must simply say that we cannot find the cause.

Someone asks if it is a neuritis. This



raises the whole question of the relation of neuralgia to neuritis, one that has vexed neurologists ever since the subject has been closely studied. Some writers claim that in all cases of neuralgia there is an inflammation, or at least congestion of the nerve trunks. An anatomical basis for this view is found in the fact that cases presenting the typical clinical picture of neuralgia were found to present partial alteration of the nerves involved. On the other hand, cases of prolonged neuralgia have been noted in which no structural alterations could be found. It is to be remembered that our methods of study have only been perfected in recent years, and they are still far from satisfactory. Even if we admit that neuralgia has its sub-stratum in structural alteration of the nerve trunks, it is by no means certain that these are to be classed as inflammatory in their nature. It is also to be remembered that prolonged alteration in function is followed by structural changes that are secondary to the primary disorder. From the standpoint of pathological anatomy alone, the identity of neuritis and neuralgia is by no means settled; clinically there is a wide difference between the two conditions.

In the case before us there is no doubt but what we have to do with typical neuralgia. The treatment is constitutional and local. In this case the constitutional states which often underlie neuralgia are not present, or at least we are unable to detect them. The patient's general health is good, he is not anemic, his digestion is fair and his elimination seems to be perfect. In these cases salicylate of soda is a favorite remedy. It is given in fifteen-grain doses, three times daily, after meals and well diluted. During its administration the patient will be instructed to take large quantities of water.

In addition he will be given each morning one and one-half ounces of castor oil, not for the effect upon the bowels, but for its specific value in the treatment of neuralgia. Castor oil has long been a favorite with us in the treatment of facial neuralgia and it has occasionally proven of signal value in other forms. This use of castor oil was first brought to our attention by Dr. A. J. Ochsner, who treated many cases of facial neuralgia with castor oil before resorting to operative interference. A surprisingly large number were relieved and no operation was required. These cases were all severe and had previously been subjected to the routine treatment for neuralgia without relief. Up to the present time we have treated a considerable number of cases and can confirm in every respect the favorable opinion entertained by Dr. Ochsner of the value of this treatment. The oil should be given each morning; its laxative effects are pronounced, but, notwithstanding this fact, it should be continued daily. After the first two or three doses its action upon the bowels is not so marked, and at the end of a week the stools are reduced to one or two daily.

The curative action of the oil may be attributed to its laxative and eliminating

power. There is good reason to believe that such is not the case, as other cathartics, equally efficient, have no such effect in the treatment of neuralgia. Castor oil is a very complex body, and while it has heretofore been regarded as a simple laxative, it may contain substances which act upon other structures than those of the large bowel. Its use is purely empirical, but this is no objection, as it is true of the vast majority of remedies which we employ.

The local treatment in this case should consist of a thorough massage of the scalp over the entire painful area. The massage should be deep and the pressure as firm as can be borne. In performing the massage, the fingers should be covered with vaseline or other ointment, as by this means much deeper pressure can be made. If the massage is not followed by some relief within two or three days, then we shall recommend that a small portion of the scalp be shaved from painful point and the actual cautery applied, making two or three superficial burns, the area covered not exceeding a cm. in size.

NIGHT TERRORS.

This little patient is seven years of age. She is fairly well developed for her age, and while she appears rather delicate she does not present any striking departure from health in her general appearance. Her color is by no means good and she appears to be somewhat nervous, in this respect resembling some of the cases of mild chorea which we see so frequently.

The mother tells us that the child has had fairly good health until about one month ago, when she began to scream in her sleep, to struggle and throw herself about. She was awakened with difficulty and when placed on her feet would run about and cry, seeming to be in a partially conscious condition. This attack lasted about fifteen minutes; she gradually quieted down and slept the remainder of the night. Within a day or two she had a second attack similar to the first. She was then free from the trouble for three or four weeks, when it returned on two separate occasions.

The disorder is by no means infrequent, though singularly enough some systematic works on diseases of children do not refer to it. Writers have constantly sought for one cause and another and much speculation has been indulged in as to the nature of the trouble. By most writers it has been regarded as symptomatic and doubtless it properly belongs in the group of functional disorders without known anatomical basis.

It is sometimes spoken of as *pavor nocturnus* and is described as a sleep disorder peculiar to children. It is by no means confined to children, as we have seen very marked cases in adults.

Dana divides the disorders of sleep into four classes:

1. Deficient sleep, including the varieties of insomnia.

2. States of imperfect or partial sleep, which include dreams, sleep drunkenness, night terrors and nightmare.

3. States of perverted or artificial sleep, which include somnambulism, sleep-walking, hypnotism, mesmerism and trance.

4. Morbid drowsiness or somnolence, paroxysmal sleep, epileptic sleeping attacks, trance sleep, carus, cataphora, lethargy, sleeping sickness of Africa.

In this case we are unable to find any definite cause for the disorder, more than that the patient is somewhat delicate and decidedly nervous. We shall therefore treat the condition by building up the general system, giving tonics, nutritious food, particularly cream, and baths. In addition we shall give ten grains of bromide of sodium each night for two or three weeks. This will not be continued indefinitely and only if it seems to agree well with the patient. When we have succeeded in build-up the general health and improved the nutrition and the nervous system, this remedy will be discontinued.

The prognosis in this case is favorable; the disorder is usually harmless and tends toward recovery.

Congenital Dislocation of the Hip.

By ALEX C. WIENER, M. D.

[A clinical lecture before the Chicago Clinical School.]

You must not expect me to lay before you the results of original researches or conclusions derived from a large number of cases of congenital dislocations of the hip, but as the affection is most frequent among congenital malformations, and occurs about once in ten thousand surgical cases, it seems to me not inappropriate to call the attention of this class to a subject which for some time past has been a favor-

the topic of discussion at surgical congresses.

Manifold are the theories which have been advanced by various writers in regard to the etiology of the affection. The final settlement of this vexed question would be of the utmost importance for its prognosis and therapy. It seems practicable to divide all congenital dislocations of the hip into three different classes:

1. Congenital dislocations of the hip caused by retarded development of the acetabulum. As you know, the acetabulum is

FIG. 1.

formed by the os ischii, the ileum and os pubis, which being cartilaginous at the end of the second month, inclose a central dense cellular blastema at the base of the acetabulum, where the bones meet in the well-known Y-shaped figure. When this blastema is retarded in its normal growth the acetabulum remains so small as hardly to allow the tip of the index finger to enter. The retardation of development is confined mostly to the skeleton of the pelvis and the lower extremities and is associated with other monstrosities—rachisohiesis, fissure of abdomen and bladder and exstrophy of the intestines or a large sacrolumbar myelomeningocele.

In rare cases the retarded development of the acetabulum is the only malformation. The head of the femur, continuing to grow, is naturally forced out of the socket. These are the only cases of this class which later come under the care of the surgeon.

2. The second division embraces all the cases in which the dislocation has occurred in the later period of fetal life and the acetabulum has ceased growing from disuse. The dislocation at this stage may be produced by injury or disease of the joint, intra-uterine rachitis, or by hereditary influences—the same causes to which we ascribe the deformities of other parts of the extremities.

3. The third class is not strictly congenital, the dislocation occurring during the expulsion of the fetus from the uterus. Phelps saw a child one hour after it was born. The right limb was an inch shorter than the left and there was a dislocation on the dorsal of the ileum. He manipulated the limb according to the usual method and reduced the dislocation, the head remaining in place without a retaining apparatus. If the deformity had not been noticed until the child began to walk, any physician would have pronounced it a case of true congenital dislocation.

The pathology of the disease is extensive and I shall dwell only on the important points. The older the child grows the more marked becomes the disproportion between the femur, the head of which, resting on the iliac bone, continues to enlarge, and the socket, the growth of which is arrested on account of lack of stimulative power. From the same cause the socket assumes a more triangular shape and in the course of time the head of the femur dwindles down to a mere rudiment. Consequently the femur must depend for support mainly on the capsule and the ligamentum teres, both of which, acting as suspensories for the trunks, are drawn out more and more. But the latter, being stretched beyond its normal elasticity, and constantly rubbing against the posterior walls of the acetabulum, undergoes atrophic changes, while the capsule is expanded into a long tube, the walls of which are thickened, the anterior part covering the flat socket like a sail spread. In consequence,

muscles, ligaments and fasciæ undergo such nutritive and functional changes as generally occur in cases where the places of insertion are brought into permanent proximity. The symptoms differ according as the dislocation is unilateral or bilateral. Only in the rare cases described by Phelps and Ridlon, where the dislocation has taken place toward the pubic instead of toward the iliac bone, the affection may be confounded with tuberculosis of the hip-joint; as in the case of a doctor's child, in regard to whom Dr. Murphy and I made the proper diagnosis.

The principal symptom is lameness and shortening of the diseased leg. You bring the patient in side position. Then, inspecting the parts, you find the buttocks flattened and the trochanter projecting. The patient can move the leg with ease in all directions but one, and this sign is pathognomonic. It is impossible for him to lift it in a vertical position.

The head of the femur moves passively up and down the iliac bone. In walking, the child limps, the pelvis tilts forward and the lumbar vertebræ show a marked lordosis and scoliosis toward the diseased side. The gait in bilateral dislocation is very characteristic and has often been compared to the waddling of a duck. Frorien has explained this symptom by the vertical gliding of the femurs when alternately charged with the weight of the body. This erroneous theory is contained in most textbooks. However, Trendelenburg has proved that the change of the fibers of the musc. glut. and minimum from a vertical position in which they act as the abductors of the pelvis to a more oblique or even horizontal direction, and the shortening and consequent atrophy of these muscles cause the pelvis to tilt to the side of the resting leg in walking.

Therapy.—While the diagnosis of the affection does not offer any particular difficulty, the therapy is a long history of manifold and often disappointing trials since Dupuytren, the founder of the mechanical therapy of the congenital dislocations of the hip, has cautioned his followers against enthusiasm in regard to the final outcome of the deformity. I can hardly suppress the tempation to give you a historical sketch and to praise the untiring perseverance and undaunted energy of such men as Pravaz, Humbert, Paci, Bradford and Buckminster-Brown, whose names are milestones on the rocky ways leading to final success. The main difficulty in bringing the head down to a level with the acetabulum consists in the shortening of the muscles which run along the direction of the displacement (pelvicrural, glutei and adductors), and in the shrinkage of the fasciæ and the anterior wall of the capsule. The impediments to replacing the head into the socket and retaining it there are still greater, the slit-shaped entrance to that part of the capsule surrounding the acetabulum (hourglass form of the capsule) and the disproportion often existing between the misformed head of the femur and the small cotyloid cavity being the cause.

To Lorenz of Vienna belongs the credit of perfecting the Paci method, which consists in reducing the head of the femur in one sitting under deep anesthesia. He first brings the head down to a level with the socket by means of a screw and then forces it into the cavity, while the femur is held in extreme flexion and adduction, at the same time a slight inward rotation being observed. Lorenz describes in quite a dramatic manner the joy of the operator when the head, with an audible and perceptible snap, passes over the posterior wall of the acetabulum. The success, besides, is indicated by considerable pain and swelling about the hip-joint, elevation of temperature and sometimes profuse diarrhea or even collapse. The leg is then held in extreme adduction by means of a plaster-of-paris dressing, comprising the abdomen and the femur, in which the child is allowed to walk after the first week, thus utilizing the weight of his own body in developing the acetabulum by the constant pressure of the head of the femur. With each following dressing the adduction of the femur is diminished and after a few months the plaster-of-paris dressing is replaced by Schede's adduction splint, which, being easily removed, facilitates the employment of massage, active and passive motions and cold baths, the value of which for the final outcome cannot be overestimated. You readily see that this treatment is strictly physiological and complies with the fundamental law that nearthrosis can only be produced by functional irritation. Although Lorenz has advanced the Paci method almost to perfection, it sometimes fails in young children, and its use is not at all advisable

in children over six years of age. In such cases the head has to be forced back into the socket after the hip-joint has been opened. This way, being first laid out by Poggi, was perfected by Hoffa, whose bold efforts were rewarded by a success previously unexpected.

Hoffa uses Langenbeck's incision and opens the capsule in the direction of the neck of the femur, rolling the head outward, thus easily gaining access to the cotyloid cavity, which he hollows out sufficiently to allow the head to rest comfortably in it.

FIG. 2.

No sutures and capillary drainage, and of course absolute asepsis being employed, reduces the possibilities of infection to a minimum.

The head is held in place by plaster-of-paris dressing, the future treatment being the same as in the Lorenz method. Hoffa designates the best age for operation between three and four. Considering that children in otherwise perfect health are subjected to an operation which still shows a mortality of 1 to 3 per cent in the hands of such artists as Hoffa, and further that the least infection results in ankylosis of the hip, I think we are not warranted in opening the joint before we have given the Lorenz mechanical reduction an earnest trial. The final results, however, depend with both methods upon the untiring efforts of the surgeon in developing the atrophied muscles and in correcting the still unnatural and faulty gait of the patient. In ascertaining the relative size of the head of the cavity, the Roentgen photographs have proved to be of the greatest value, and also in controlling the result of the mechanical reduction. When over ten years old, there is only palliative treatment possible. Here you have your choice between the resection of the head of the femur and its fixation to the iliac bone, subtrochanteric osteotomy after Kirmisson or construction of an ambulant extension apparatus combined with a corset, which gives the head some support from above.

If we make a dispassionate review of the results already attained, we cannot be inspired with great enthusiasm so far as sure cures are concerned; but, on the other hand, it is plainly evident that general practitioners are not justified in passing by these cases with a shrug signifying, "Nothing can be done, anyhow." The goal is worth the struggle—to preserve healthy children from future deformity. The earlier the diagnosis is made the more certain the chances of ultimate success. If orthopedic subjects are confined to special congresses, then there can be little general advancement in this the most recent branch of surgery. A more comprehensive knowledge of this subject will be more effective in abolishing quackery than rigid legislation.

100 State Street.

Diseases of the Rectum as a Cause of Auto-Infection.

By J. R. PENNINGTON, M. D.,
Professor of Diseases of the Rectum in the Chicago Clinical School; Consulting Surgeon Mary Thompson Hospital for Women and Children: Member of the American Medical Association, Chicago Medical Society, Illinois State Medical Society, Practitioners' Club, etc., etc., Chicago.

This is an amplification of a former article on this subject and is done because of repeated requests for information along this line. Rectal diseases, especially as a factor in general disturbances, should be a subject of much interest to the general prac-

titioner. These ailments are much more common than generally supposed, and the individual thus afflicted must, sooner or later, if not relieved, become the victim of self-infection. This subject has recently aroused the thought of some of our most able clinicians, and, to-day, none commands greater interest or demands more serious thought and careful study, because when more thoroughly understood will be found to be at the very root and foundation of many of the so-called reflex and other obscure diseases. There are many sources of auto-intoxication, but this paper deals more especially with that variety of infection caused by the absorption of toxic substances generated within the alimentary canal by chemic, putrefactive or fermentative changes or bacterial development, aided and influenced by the existence of a pathologic condition of the rectum and contiguous structures.

That I may more clearly elucidate the subject it will be necessary to call attention to the fact that the physiologic processes of the abdominal and pelvic organs, as well as those of many other organs and parts, depend in a great measure upon a healthy and non-toxic state of the sympathetic nervous system. These organs, through this same system of nerves, are in profound and intimate relation with the rectum; and, therefore, any diseased condition of it, such as piles, fistula, ulceration, stricture, congestion, inflammation, etc., intoxicates and impairs the function of this system of nerves, and, according to that degree of intoxication and impairment, weakens the defense, modifies the nutrition and perverts the physiologic function of the kidneys, liver, intestines, and so forth, which in turn favors and invites self-infection.

It is a notable fact that because of a peculiarity of the nerve supply to the rectum, a patient may, and often does, consider a trivial affliction of this organ as one of great magnitude, while he regards and treats a truly serious and dangerous condition as if of no vital importance whatsoever; or, perhaps, the local manifestations may be so slight that the patient has not the least suspicion of its existence. In fact, I have had patients doubt my diagnosis when they were actually suffering from self-poisoning caused by a pathologic rectum, saying it was impossible for such to be the case, as they suffered little or no pain and their bowels were regular. Future treatment, however, convinced them of the correctness of the diagnosis, that the rectal trouble was at the foundation of their affliction. Others, again, have questioned my judgment when I have assured them that their rectal affliction was comparatively insignificant. This serves to demonstrate that the cardinal symptoms, pain, hemorrhage and protrusion, may be absent when a serious and dangerous rectal affliction exists, or may be present to a certain degree in what might be termed a trivial ailment.

Bouchard tells us that the intestinal tract in its normal, as in its pathologic, state is a receptacle and laboratory of poisons. This declaration is indorsed by our most eminent bacteriologists and chemists. And, further, recent investigations have established the fact that many of the morbid conditions from which the human race suffer have their origin or source of infection in the intestinal canal of their own systems.

The bacillus coli communis, the most prevalent bacterial germ developed in the intestinal tract, has been found in the brain, liver, lungs, kidneys and, in fact, in nearly every organ of the body. Its toxins are extremely virulent, and under favorable conditions affect the vital tissues most insidiously. Watery extract of putrefying fecal matter within the intestinal canal has also been proven to be, under some circumstances, very poisonous. The injection of this material into the veins of a rabbit in very small quantities has produced death, and that almost instantaneously, so virulent is the poison contained in this fecal solution.

Auto-infection is a very insidious disease and manifests itself in a multiplicity of ways. The following are a few of the commoner symptoms observed: headache, drowsiness, lassitude, "tired feeling," loss of ambition, palpitation, impaired appetite, flatulence, indigestion, nervousness, irritability, cold hands and feet, etc. Such patients are usually inclined to be melancholic. The skin has a pale, muddy, greenish-yellow or unhealthy color, and may have the odor of foul-smelling secretions. The breath is also frequently foul. In the more severe cases the symptoms are those of impending dissolution. Many of these patients travel from doctor to doctor and are usually treated for malaria, grip, biliousness, nervousness and constipation. They tell you

that as long as they continue to take medicine they feel better. This improvement is oftentimes chimeric and simply serves to aid the grim monster in more securely and insidiously fastening his venomous fangs into the very heart of their lives. When they stop taking drugs the trouble recurs, and frequently in an aggravated form.

To cure these individuals it is absolutely necessary to locate and remove the cause of the infection, otherwise it is simply a waste of time, energy, life, happiness and money. Constipation, probably, is accountable for more ills than any other one condition to which human flesh is heir. It is one of the most frequent causes of self-infection, yet should be regarded as a protection against intoxication, as it presupposes that all that is absorbable has been absorbed. But are constipated people healthy? They have headache, dizziness, lassitude, and so on. Hypochondriacs are usually constipated and suffer from all manner of nervous phenomena, such as perverted sensibility, tingling and "creepy" sensations and mental disturbances. The insane very commonly suffer from constipation. So do many epileptics. I do not say that all these troubles are caused by constipation, but I do say, regardless of the cause, that they are aggravated by it and it impairs the function of the nervous system.

Another point, and one which I wish to emphasize, is that a daily evacuation of the bowels does not necessarily mean that the individual is not constipated; neither does the absence of constipation exclude other ailments.

Were the esthetic young lady aware of the fact that in many instances her bad complexion and other ill feelings are due to the absorption into her blood of fecal matter, and its deposit in her tissues and skin, we believe that she would pay more attention to the physiology and hygiene of defecation, and the diseases of the rectum and intestinal tract. And, further, as we become more familiar with the various poisons generated within us and their great destructive powers, their power to disorder nerve centers and paralyze the action of vital organs, we come to realize and are forced to admit that we are constantly standing at the very threshold of self-destruction, that we are our own self-destroyers.

In another part of this paper I called attention to the close and intimate relation existing between the rectum, pelvic, abdominal and other organs, and shall now briefly append a few cases to illustrate some of the serious and dangerous constitutional diseases that may be, and often are, caused by rectal affections, and that the relief and cure of these afflictions depend upon the administration of proper and intelligent treatment of the rectal ailments.

Case I: Mrs. S., consulted me in May, in regard to an external pile. She was emaciated, nervous, had a sallow complexion, palpitation, bronchial cough, pain in the left side and back; also ovarian and uterine symptoms; had no ambition and was inclined to be melancholic; her bowels were constipated and her appetite poor. Suspecting a more serious local trouble than that of an external hemorrhoid, I explored the rectum and found an ulceration the size of a silver quarter, located two inches above the anus. This cured, her symptoms vanished, and she regained her usual health.

Case II: Miss W., aged twenty-five. Hysteric, nervous, emaciated, suffering from palpitation and indigestion, bowels slightly constipated, foul breath, bronchial cough and cachectic. Removed four hemorrhoids July last. She now has a beautiful, rosy complexion and has gained 20 per cent. in weight.

Case III: Bright's disease (?). Examination of urine of patient, upon whom I operated for fistula, showed albumin in considerable quantity. He also had slight edema of feet and ankles, waxy complexion and other symptoms indicating Bright's disease; in fact, had been treated by his family physician for this trouble, all of which, including the albumin, disappeared after the operation, when he became healthy and robust.

Case IV: Renal calculus (?). Mr. W., aged forty-nine, presented such typical symptoms of renal calculus that I advised him to attend to his kidney trouble first and then his hemorrhoids. Made an appointment for him to consult a general surgeon in regard to the stone the following day. Instead of keeping the engagement he returned to my office. I then said to him, "You know that you have hemorrhoids, but do not know positively that you have a renal calculus." I reconsidered my advice of the previous day and suggested that he

have the rectal operation performed first, explaining the possible reflexes from his hemorrhoidal disease, notwithstanding they were not troubling him to any great extent. To this he consented. As he recovered from the operation the renal symptoms began to disappear, and continued to do so until they were gone. His general good health also returned.

Case V: Asthma (?). Patient afflicted with hemorrhoids and ulceration. Had a chronic cough, cooing râles, tenacious expectoration and gave a history of asthmatic attacks and evidences of auto-infection. The hemorrhoids and ulceration cured, the lungs cleared up, the cough and asthma (?) disappeared.

Case VI: Rheumatism (?). J. S., aged forty-two. Presented evidences of chronic muscular rheumatism, for which, to use his expression, he "had taken a barrel of medicine." The rheumatism disappeared simultaneously with the cure of his rectal affliction.

Case VII: Salpingitis (?). Mrs. R. complained of soreness in left iliac region, pressure increasing the pain; emaciated, nervous and irritable, bowels irregular, had leucorrhea and passed large quantities of mucus from the bowels. Her physician had been treating her for inflammation of the left ovary and tube. I diagnosed her condition catarrhal inflammation of the sigmoid flexure, and by treating her according the salpingitis (?), pain, nervousness, discharge of mucus, and so forth, ceased.

Case VIII: A. R., aged fifty-three. Emaciated, had diarrhea and cough, and had been told by his physician that he had consumption of the bowels. By relieving him of an ulceration and stricture of the rectum, his diarrhea and consumption (?) were cured. It is needless to say that his general health materially improved.

Mathews reports a number of very interesting and obscure cases under the head of "Reflexes," many of which no doubt were also suffering from auto-infection. I herewith submit a brief abstract of one of his cases: Mr. H., a prominent banker, was suffering from a fissure of the anus. Several eminent physicians thought him afflicted with a malignant disease, which they were unable to locate, and that he was dying from its effect. Mathews also shared in this belief, saying that from his appearance and condition he thought he had a cancerous disease, and that it never occurred to him that the ulceration in the rectum could bring him to such a deplorable condition, and he further says that after the fissure was cured "in a few weeks he resumed his business at his bank, having fully recovered from his malignant (?) disease."

Doubtless the reflexes played an important part in this case, as well as in some of the others herein reported. Yet it was undoubtedly the auto-infection from which this patient was suffering that caused these able men to err in their diagnosis and opinion.

I could cite other illustrations, but these cases speak for themselves and serve to show that no diseases more secretly impair and undermine the constitution or cause a greater degree of personal distress, or are productive of more misery and suffering or serious consequences, than those occurring around the rectum and anus; and yet, notwithstanding their great importance, no class of diseases is more grievously neglected.

Granting that the above were cases of auto-infection originating from disease in the rectum (and if they were not, what were they?), how many more sufferers might be relieved, or even cured, by properly studying and treating pathologic conditions existing in this region?

To permit this insidious and perpetual fire of infection and disease to gradually, though slowly and surely, burn out man's existence, either by ignoring, overlooking or treating with apathy the real cause of his trouble, and constantly filling him, empirically, with drugs, when by intelligent and proper treatment this destructive flame could be so easily and completely extinguished, thereby lifting him from a pit of misery and wretchedness to that high plane of sunshine and happiness, is but little short of criminal ignorance and negligence.

103 State street.

To make a differential diagnosis between hysteria and epilepsy you must remember that these diseases may and do occur together. An important point of difference is that hysteric convulsions never occur while the patient sleeps. Epileptic convulsions, on the other hand, do occur during sleep.—Dercum.

A Classification of Speakers.

By WILLIAM WHITFORD, Chicago.

A study of the different styles of speakers, encountered during an extensive and varied reportorial experience, may be considered an education in itself, and by virtue of his vocation the shorthand writer is compelled to study them. As there is no one more competent to criticise speakers than the man upon whom devolves the duty of reporting them, I have made an attempt to classify the various speakers whose utterances I have reported from time to time in medical societies. What pertains to physicians as speakers will apply equally well to preachers, political speakers, etc.

We have:

1. The moderately slow speaker.
2. The exuberant and tempestuous speaker.
3. The musical, flowery speaker.
4. The loud, husky speaker, whose voice is somewhat indistinct.
5. The grandiloquent speaker.
6. The rapid and spasmodic speaker.
7. The excessively rapid speaker.
8. The rapid, involved and indistinct speaker.
9. The man who hurls disconnected sentences at the stenographer.
10. The clear, distinct, unassuming speaker, who talks with absolute precision, with perfect grammar. He is a rara avis, although stenographers occasionally meet him.
11. The man who commences his speech in a deliberate, measured, distinct, far-reaching tone of voice, and who, when he becomes influenced by the magnetism of his audience and their rapt attention, gives vent to rare flights of oratory.
12. The irrepressible speaker, who does not know enough to sit down while he is down, but who monopolizes the precious time of an important convention in saying practically nothing; still his remarks are reported, transcribed and then perhaps liberally blue-penciled, or consigned by the secretary of the association or editor to the waste basket.
13. The man who jumbles up his nominative, his accusative and his verb with such picturesque incoherence that it is almost impossible to make head or tail of what he means.
14. The man who threads his way through a long and apparently intricate sentence, never losing the connection of the parts, and coming out at the end with absolute precision.
15. The man who does not realize that his first duty is to make himself heard.
16. The man who never completes his sentences, but is utterly oblivious of that fact when he criticises the report of his speech.
17. The man who misquotes, and then blames the shorthand writer if he has not supplied the correct quotation.
18. The foreigner, who imagines that he speaks like a native.
19. The man who drops his voice toward the end of sentences.
20. The low, mumbling, conversational style of speaker, who indulges in a free and rapid flow of words which taxes the reporter's skill and dexterity.
21. The man who is extremely subtle in the use of words and phrases. The shades of meaning are so delicate by the judicious selection of them that the stenographer must retain the original force and color of each sentence.
22. The sympathetic, lachrymose speaker.
23. The man who habitually clothes his hazy ideas in loose, disjointed talk, which, if transcribed as uttered, would mar, if not ruin, his reputation.
24. The man with a slow and fatiguing mode of utterance, whose sentences are diffuse, intricate and deficient, both in eloquence and precision.
25. The man who is clear, forcible, persuasive, with an eloquence natural and direct. This type of speaker usually spends much time in meditation and in the composition of his speeches.
26. The man whose speeches are notable for their subtlety of discrimination and depth of learning.
27. The man who evolves original thoughts, whose imagination pictures vivid scenes, and whose voice and gesture emphasize living truths.
28. The eccentric speaker, who stifles and distorts natural eloquence. His introductory is long; divisions and subdivisions are perhaps illustrated by a pointless story.
29. The man who carefully selects his words and utters sentences that are models of syntax.

30. The man whose style is natural, easy and varied, with short clauses expressing vivid ideas.

31. The tautological speaker.

32. The vivid, brilliant speaker, who pours out a torrent of words, dexterously handled, and whose remarks are full of sudden turns and surprises, but are illumined by ingenious reasonings.

33. The man with a strange and unfamiliar style, whose sentences are portentously long.

34. The man who speaks rapidly and monotonously, becomes entangled in his own sentences and mispronounces words.

35. The man who is known for his elegant diction, his scholarly references and the ornateness of his phraseology.

36. The man who stutters, speaks indistinctly and yet is extremely technical.

37. The pompous speaker.

Epilepsy and Traumatism.

By FRANCIS E. SHERWOOD, M. D.,
Professor of Anatomy College of Physicians and Surgeons, Medical Department of the Illinois University, and Professor of Surgery in the Chicago Clinical School.

[A clinical lecture delivered at the Chicago Clinical School, March 8, 1899.]

Gentlemen:—The patient before you today, Mr. M. G., was operated upon by me about five months ago for the relief of traumatic epilepsy. Age twenty-six; single; a laborer; hard drinker when he can get it; gives a negative family history. He appeared at my clinic the last of October, entered the West Side Hospital November 6 and was operated upon before the clinic November 7, 1898.

Previous History: At the age of six he was hit by a stray bullet on the Fourth of July, 1878, twenty years ago. The ball entered the skull in the right temporal region, directly above the external angular process, and two and three-quarters inches above the zygomatic process. He was a resident of St. Louis at the time, and taken to the hospital in an unconscious condition, and remained so for three days. He was discharged from the hospital in six weeks apparently well, with the wounds healed. He experienced no trouble for the next five years. Five years after receiving the injury he began to have convulsions. It is impossible to get a definite description of the nature of the attacks, except at the first they were light. His attacks occurred once a month; at times he would have two or three in one day, or he might only have one, and then would go for another month without recurrence. The seizures grew more severe until they lasted twenty to thirty minutes each. Fifteen years after the injury complete aphasia developed in addition to the epilepsy. He was operated upon for the relief of the aphasia at the seat of injury in the right temporal region. They say that spiculæ of bone were removed from the brain, after which he regained his speech. The bullet could not be located, and the procedure had no influence upon the epilepsy. It is interesting to note that the trouble which caused the motor aphasia resulted from the spiculæ of bone impinging upon the right hemisphere; that it occurred fifteen years after the injury. The aphasia was completely relieved by the operation. This patient is a right-handed person. The center of motor speech is supposed to be located in Brocha's convolution on the left side in right-handed individuals.

One year later, or sixteen years after the injury, he was again operated upon in the same region. This operation proved negative as far as locating the bullet or relieving the epilepsy was concerned. A silver plate was used to close the defect in the skull, and to prevent adhesions between the scalp and dura, and the consequent irritation.

Present History: The patient is anemic; weighs about 120 pounds; has no irritation at the seat of previous operation. His attacks are preceded by dizziness and a drowsy feeling, which are followed by unconsciousness and convulsions. He has no education; shows mental dullness; is forgetful, stubborn, unreasonable and hard to control about the home and in the hospital. He had no motor symptoms. No cause could be found, other than the pathological condition resulting from the bullet passing through the brain, and its presence there the last twenty years, which would account for his epilepsy. The patient has taken most all, if not all, the different courses of medical treatment given epileptic patients without relieving him of his trouble.

As the aphasia was relieved by removing the source of irritation fifteen years after

the injury, there was good reason to believe that if the source of irritation could be removed there might also be a chance of relieving his epilepsy. There is this difference, the aphasia was operated upon soon after it appeared; the epilepsy has continued for the last fifteen years. It has been frequently noted and is well recognized that the earlier operative procedures are resorted to in cases of epilepsy the greater are the chances of relieving it.

There are two palpable reasons why this should be so. In the first place it does not give time for the epileptic habit to become fixed; the second and probably the most potent reason is, it cuts short the source of irritation which is causing the extension of the pathological condition which produces the epilepsy, and effects a cure of the disease before the epileptic habit becomes established.

The mere fact that a bullet is located in the body after it has become encapsulated is not sufficient cause for resorting to operative procedures for its removal; at least, in the deeper portions of the body, where the removal involves some danger, there should be some potent cause (as pain or interference with some of the functions of the body) before it is attempted. In a delicate structure like the brain, with complicated functions, foreign bodies cause trouble more frequently than in organs with more stable structure and simpler functions. If in a similar case to this at the present day the X-ray should disclose the exact location of the bullet, it is questionable whether it would be advisable to remove the bullet in the absence of septic and functional involvement until after the wound heals and the patient is over the first effects of the injury. The course of this case proves that the presence of the bullet was no disadvantage to the recovery of the patient, while operative interference, added to the effects of the injury, might have resulted fatally.

Experience has shown that operative procedures in cases of traumatic epilepsy offer the best results in effecting a cure, especially where the cause of irritation to the brain can be removed, yet, as the operator cannot always remove the pathological conditions which result from the effects of traumatism, even in this class of patients, there is a large per cent of failures following operative procedures. In justice to the previous operators upon this case, I should say that at the time they operated upon the patient the X-ray for locating foreign bodies was not available, and our knowledge of cerebral localization then, as now, was not sufficient to enable them to definitely locate the bullet.

FIG. I.

After the previous operative procedures without knowing the exact location of the bullet in the brain it would have been folly to have subjected the patient to another operation with the hope of locating and removing it. Therefore, after the patient was examined the first time in the clinic he was referred to the X-ray laboratory of Mr. Fuchs, in the Schiller building, where the bullet was located and demonstrated to the class through the fluoroscope. The metal plate on the right side of the head showed up prominently, while the bullet appeared on the left side, situated posterior to and below its corresponding point of entrance on the opposite side, as indicated in Figs. III and IV. Skiagraphs were made life size anteroposteriorily (Fig. I), and laterally (Fig. II), which show the location of the bullet very accurately. Measurements were then taken from the skiagraphs and corresponding measurements were made and marked upon the head after the patient's head had been shaved.

The bullet was found to have passed almost entirely through the frontal lobes and rested on the left side three and a half inches posterior to the external angular

process of the frontal bone, and two inches above the zygoma, and one inch deep in the cerebral hemisphere. Taking a point opposite the location of the bullet as the center of my flap, I made a horseshoe-shaped incision in the soft tissues over the left temporal region, and, after arresting the very profuse hemorrhage which followed severing the branches of the temporal arteries, I completed an osteoplastic resection of the skull, according to the Wagner-Wolff method, turning down a trap door of bone and soft tissue which exposed about nine square inches of dura.

The dura was quite normal in appearance, the brain comfortably filled the

FIG. 2.

cranial cavity and pulsated freely, showing that there was no intra-cranial pressure. There was nothing upon the dura to indicate the presence or effects of the bullet upon that side of the brain. The branches of the middle meningeal artery were ligated and a flap of dura was turned down by cutting one-fourth of an inch inside of the bony margin so as to leave a free edge for stitching it back. The gray cortex also seemed to be normal to the touch and in appearance. I introduced an exploring needle one inch and a quarter into the hemisphere without meeting any marked resistance. After removing it I again introduced the needle one-half inch posterior to the first insertion, entering the posterior extremity of the second frontal convolution. I struck a hard substance one inch from the surface, which proved to be the ball. In order to avoid cutting some of the large vessels of the pia mater, I made a perpendicular incision through the cortex and white matter about one inch long, following the course of the needle down to the bullet. By slightly separating the edges of the wound which I had made in the brain, I introduced a pair of strong polypus forceps along the side of the needle, which I had not yet removed, and grasped the bullet and tried to extract it, but its attachments were so firm that the forceps slipped off. I again imperfectly grasped the bullet with like results. I extracted it on the third attempt, but had to use considerable force in so doing. The bullet was surrounded by a fibrous capsule and had hanging to one side of it a tail-like process of fibrous tissue, which was, no doubt, a portion of the cicatricial tissue, which had filled the track of the bullet made by its passage through the brain.

The hemorrhage from the cerebrum was easily arrested by sponge pressure, after which it was removed. The dura was closed except at its lower posterior angle. The bone and scalp flap were replaced in such a manner that the edges of the bony flap impinged upon the corresponding edge of the skull and prevented it resting upon the dura. The wound was closed, except at its lower posterior angle, which gave passage to two small strands of catgut placed inside the dura for drainage. These were removed in forty-eight hours. The wound healed by first intention. The stitches were all removed at the end of two weeks. The patient absolutely refused to use the bedpan and had to be removed from the bed and placed upon the commode at regular intervals. At the end of forty-eight hours he had a convulsion which the nurse described as being severe and lasting for five minutes. At the end of a week from the time of the operation, he got up, put on his clothes, slipped past the nurses and left the hospital. He walked four or five blocks to a relative, who put him on the car and took him home. On that evening, one week from the time of the operation, he had an attack of unconsciousness,

unaccompanied by convulsions, which, they said, lasted only for a few seconds.

Up to the present time I have not used drugs in this case, as I desired to see just what would be accomplished by the removal of the bullet. This is the first opportunity I have had of seeing the patient

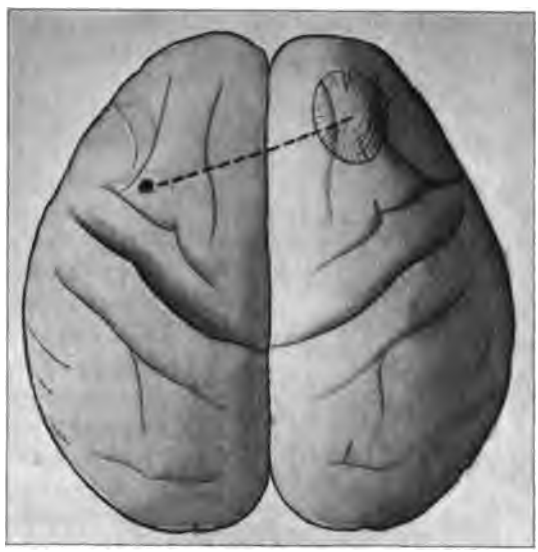


FIG. 3.

since the recurrence of his convulsions. I shall now place him upon the bromides to see if they will not still further reduce the severity of his attacks.

These are the only disturbances which he had for thirteen weeks after the operation, which is a favorable result, considering the uncontrollable disposition of the patient. His mother says that since their recurrence the convulsions have recurred at irregular intervals, the dates of which she could not give. His convulsions are very much less severe than they previously have been; they are attended with a prodrome which warns the patient in time to allow him to assume the prone posture. At present they last from five to nine minutes.

After operations upon the brain absolute quiet in the recumbent posture is very desirable for at least from six to eight weeks. In this case, while the patient remained in bed for one week, he was, at intervals, up from the time of the operation until he left the hospital, contrary to my wishes, and has been ever since.

The immediate effect of the injury was unconsciousness. You will note that he gives a history of no motor involvement for a number of years after the original injury. This can be accounted for by the fact that the bullet passed through the intellectual area, and the motor centers only became involved, a number of years after the injury, as a result of the extension of the pathological process from the seat of irritation to the motor area.

Fig. IV is a drawing of a cross section of a brain hardened and preserved in Mueller's fluid for two years. This section of the brain was made transversely on a line corresponding to the location of the bullet in our patient. It shows the extensive fracture and chipping off of the brittle internal table with a small hole in the external table, which so frequently occurs in gunshot injuries to the skull. It shows the course of the bullet, with the commissural tracts, which were interrupted in its passage through the hemispheres; its location in the white matter, with its relative location to the gray cortex, anterior limb of the internal capsule, and corpora striata. You will note that he gives a history, "no education; shows mental dullness; is forgetful:

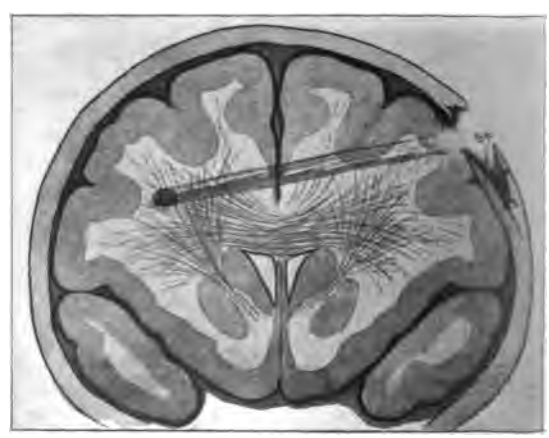


FIG. 4.

stubborn, unreasonable." This is accounted for by the involvement and interruption of the commissural paths in the psychical area, as indicated by Fig. IV. Allen Starr and many others have noted that, for the coördination of facts into orderly series for comparison, and for the analysis

of knowledge gained, the integrity of these tracts and a healthy state of the frontal lobes are necessary.

There appears to be no one spot in the brain nor any definite area which can account for mental activity, but it is necessary to have all parts of the brain in a healthy state and to have the psychical area connected with every other area, as the sensory, the motor, the perceptive, and so on, in order to get perfect coördination of thoughts.

By cutting the commissural fibers, which connect the different parts of the brain with each, and by interrupting the anterior limb of the internal capsule, which connects the psychical area with the deeper center, both with the brain and spinal cord, we have had a retardation and interference of mental development and the accompanying symptoms which this patient presents. "Lesions in the frontal lobes are quite uniformly attended by mental dullness, apathy, lack of power of concentration and imperfect self-control."—Allen Starr.

This group of symptoms has been active from the reception of the injury, while the aphasia and epilepsy only resulted after the establishment of pathological conditions in the brain. The filling of the bullet tract with cicatricial tissue and its contraction and subsequent pressure no doubt had much to do with the subsequent manifestations of his trouble.

How long after the traumatism is it before the convulsions begin? In many cases the convulsions occur immediately after the reception of the injury; in many others they do not occur for a number of days or weeks, and still in others for a number of years subsequent to the injury. In this case you will note that the first convulsion occurred five years after the injury.

Epilepsy is a symptom, or group of symptoms, of which the morbid basis is not always the same. The convulsions are merely an expression of a pathological condition of some of the higher nerve centers which may be dependent on some local or constitutional disturbance, or both.

Mechanism of Epilepsy: In the light of our present knowledge, at least, severe epileptic seizures are recognized as an explosion or discharge of nerve force. The large motor cells in the deeper layers of the cortex, the function of which is to store up and discharge nerve force, are under the control of the angular sensory cells, which have inhibitory power. This inhibitory power of the sensory cells, under the influence of disease, is lost and the motor cells explode periodically, producing the convulsions (Tyson).

The varieties of epilepsy which interest the surgeon most, as they are more freely amenable to surgical treatment than any other, are focal, Jacksonian and traumatic epilepsy.

Etiology: Age, sex, heredity, organic brain lesions, neurotic, hysterical and neuralgic conditions, constitution and habits, infectious diseases, malnutrition, tumors, inflammation of the meninges and trauma are all given as etiological factors in the causation of epilepsy. It occurs more frequently in early life than in later years; more frequently in the female than in the male, except from traumatic origin. We find our most frequent subjects of epilepsy resulting naturally from the presence of organic brain lesions in neurotic individuals and in cases of malnutrition, subjects of syphilis and alcoholism.

The importance of heredity in the causation of this, as in many other diseases, has been very greatly diminished by the knowledge gained concerning their true pathology.

In considering the causes of traumatic epilepsy La Dentu ("La Presse Medicale," June 9, 1894) gives them as follows: Bone fragments from fractures of the skull; outgrowths of bone due to tumors, exostoses; meningeal cicatrices following lacerations of the membrane by bone fragments; inspissated chronic meningitis, ending in sclerosis of the membranes; cysts arising from intracranial hemorrhage at the seat of fracture; arterio-nervous aneurysm.

In a large majority of cases an injury in former years may be held as accountable for the epilepsy. The same injury which would cause transient or no difficulty in some individuals does undoubtedly cause epilepsy in others, whose constitutional and nervous condition is on the border of a pathological state. It is not every case of severe injury to the head that results in epilepsy. In the Franco-Prussian war, out of 8,985 wounded on the head, 46 had epilepsy; out of 77,461 wounded in other portions of the body, 17 resulted in epilepsy.

An interesting point about the case before us is the fact that the first fit occurred five years after the inception of the injury, and if the cause was not so plain there would rightly be a doubt concerning the traumatic origin of the trouble. In fact, strictly speaking, the only real evidence that we have of the effects of trauma upon the brain was the three days of unconsciousness immediately following the injury. Even the spiculæ of bone on the right side did not show evidences of their irritation for fourteen years after their implantation in the brain substance. Both of these facts show how tolerant the brain is to irritation under some circumstances in the absence of infection, while at other times a very slight trauma may cause a complete derangement of its functions. causing not only epilepsy, but even violent insanity. They show that after years of irritation pathological conditions were produced, resulting in the manifestations known as epilepsy and aphasia.

We will not have time to-day to discuss the symptomatology, diagnosis or differential diagnosis of epilepsy.

Surgical Treatment of Epilepsy: For general or idiopathic epilepsy, no surgical treatment can be recommended.

The forms of epilepsy which interest the surgeon are focal, Jacksonian and traumatic epilepsy. In the surgical treatment of epilepsy the brain is exposed and the center in which the attack begins is localized with the Faradic current and excised. The excision should extend horizontally so as not to involve too many centers. The entire thickness of gray matter should be removed. It is extremely important to do an aseptic operation and to get union by first intention so as to obtain the minimum amount of scar tissue in the healing process. The area of brain exposed should be comparatively large so as to afford an easy access and a free field for the necessary operative procedure. In cases of focal epilepsy the extirpation of apparently healthy brain tissue has been strongly advocated by some, but strongly disapproved by others.

The method of operation in cases of Jacksonian epilepsy does not differ from that of focal epilepsy.

Various substances, as the skin of egg, rubber tissue, and gold foil, have been used to prevent adhesions between the brain and meninges, and the meninges and scalp. They all have the disadvantage of being foreign bodies and have proven at times to be sources of irritation, but in many cases their use has been attended with apparent success. Their use should be limited to cases where considerable injury to adjacent structures becomes necessary. Grafts of pericranium have been suggested and used in closing the deficiencies in the dura in order to prevent hernia cerebri.

The Wagner-Wolff osteoplastic resection of the skull with the mallet and chisel and replacing the bone flap has largely superseded the operation of trephining, and, I think, has the preference at the present day of all other methods of entering and closing the skull.

In traumatic epilepsy the best results are accomplished by operating early before the epileptic habit becomes established. The seat of operation should be determined by the symptoms, rather than by the scar upon the scalp or external evidences. Fractures and hemorrhages have proven to be, at times, at widely different points from the reception of the injury. Exostoses, spiculæ of bone, cystic blood clots, or whatever the irritating cause, it should be removed. There is no question but what operation affords the best method of treatment for focal, Jacksonian and traumatic epilepsy. Statistics, which are very imperfect, but are constantly increasing, show that as a result of operative procedures a small percentage of these cases are cured; a larger percentage are benefited, and a still larger percentage are not benefited, but even this justifies the trial when it is considered that no other treatment offers a slight percentage of cure. As our knowledge of cerebral localization and cerebral pathology increases the field for operation and the advantages gained therefrom will undoubtedly broaden. Few cases of epilepsy are operated upon that are not improved temporarily, either when done for the relief of the epilepsy or on distant portions of the body for the relief of other troubles.

100 State street.

Lectures on the Practice of Medicine.

By Wm. E. Quine, M. D.
Professor of the Practice of Medicine and Clinical Medicine, College of Physicians and Surgeons of Chicago, and Dean of the Faculty.

I. INTRODUCTORY.

Ladies and Gentlemen:—The Practice of Medicine is that department of knowledge which treats of medical diseases in all their relations. It is an epitome of the experience of the world in relation to those diseases. It includes everything known and knowable concerning them. It does not describe individual examples of sickness, but it tells in systematic form all that is known concerning that sickness. Clinical medicine deals with one case at a time. But you cannot learn all about a disease from the study of one case or of one hundred cases. Clinical medicine is complementary to the practice of medicine. You will find exemplified in each sick person some of the facts you have been reading about in the Practice of Medicine in connection with that particular kind of sickness. Clinical medicine furnishes opportunity for the exercise of the perceptive, reflective and discriminative faculties; whereas, the study of the practice of medicine is, for the most part, a matter of memory. Abundant learning does not of itself make a good doctor; it is indispensable to sound judgment, but it cannot take the place of searching and penetrative observational power and accuracy of reasoning.

The Practice of Medicine includes (a) the natural history of diseases; (b) diagnosis, prognosis and treatment.

Natural History: It is obvious that the natural history of a disease will be duly evolved, whether we are able to identify that disease or not. Diseases obey laws in their development and decline. A morbific cause is brought to bear upon the body, and it produces derangements of physiology and anatomy, just as is done by excessive doses of medicinal poisons. Derangements of physiology and anatomy, which are perceptible to the patient or to the physician, are termed symptoms. The study of the natural history of any disease begins with that of its causes. Causes are primarily divided into two groups, (a) predisposing, (b) exciting.

(a) Predisposing Causes are subdivided into those relating to the individual and those relating to his environment. We come into the world imperfect beings, each with elements of weakness and elements of strength and with liabilities to disease which have been transmitted to us by ancestors by reason of stress of circumstances and of injurious habits of life. Each comes into the world with an organic tendency to an early death, or with an organic tendency to long life. The resisting power of tissue is different in different individuals. Muscular strength is one thing and constitutional strength or vitality is an entirely different thing. The athlete may succumb to an attack of sickness of moderate severity, and the overworked, underfed, maltreated, weazened washerwoman, who looks as though a gust of wind might blow her down, triumphs over the same sickness of double the severity. Of the predisposing causes relating to the individual, the most important are heredity, age, sex, conditions of body and vocation.

Liability to certain types of disease is transmitted from parent to offspring. Heredity is operative as a predisposing cause in relation to derangements of the mind and nervous system; in relation to cancer, gout, diabetes, hemophilia and other types of disease. The basis of such inherited liability is believed to be peculiarities of metabolism or of elimination. Now and then it happens that members of the same family transmit to offspring, generation after generation, liability to certain disorders, and such disorders in due time make their appearance. But it may happen, in the process of hereditary transmission, that an interruption occurs in the line of transmission, so that one child out of a numerous family may fail utterly to show any of the tendencies of the family disease which are so plainly manifested in the others. This is known as atavism. The atavistic individual, however, may transmit to his own offspring liability to the family disease as though no interruption had occurred in the line of transmission.

Age can hardly be considered a cause of disease, since it is a part of the individual. It may carry with it, however, peculiarities of organization that make the individual specially liable to certain diseases at

one period of life, and to other diseases at a later period of life. Maximum liability to acute diseases of the cerebro-spinal axis is manifested in early life. At the time when the spinal cord is in process of active development, and the functions of locomotion and equilibration are being established, maximum liability to acute diseases of the spinal cord obtains. In early periods of life the nutritive functions of the body are closely concerned in processes of growth and development. At puberty a new function comes into play; the appearance of it involves more or less disturbance of the preëxisting equilibrium, of nutritive and other processes of activity, and later in life, when there is arrest of the menstrual function, disturbances are likely to arise in consequence of interruption of the previously long-established equilibrium which had included, as a portion of its basis, a regular monthly flow. It is not difficult to understand, therefore, why it is that at different periods of life liability to particular kinds and localizations of disease is exemplified.

Sex, no more than age, can be regarded as a cause of disease, since it is a part of the individual. It is obvious that an organ must exist in order to be diseased, but it cannot be claimed, in reason, that the existence of an organ is a cause of the diseases with which that organ comes to be affected. There are peculiarities of organization characteristic of both sexes, which distinguish them from one another and serve in some degree as the basis of liability to, or of immunity from, certain types of morbid action. The female is more liable to emotional disturbances; the male is more liable to such diseases as are dependent upon exposure to inclemencies of weather and to stress of laborious work and habitual abuse of the body. Quite aside from any consideration relating to sexual distinctions, there appears to be in the female an organic liability to certain diseases, and in the male an organic liability to diseases of a different kind. Thus, ulcer of the stomach occurs twice as frequently among females as among males, and cancer of the stomach twice as frequently among males as among females. The causes of such differences in liability are not well understood.

Habit: Habit is another agency deserving of systematic consideration in relation to its influence in causing liability to disease, or in conferring immunity from it. "Familiarity breeds contempt." The habitual use of contaminated water may be indulged without detriment to the health of the individual, but when he goes away to a salubrious locality and drinks pure water and remains away several months, and then returns to his home and resumes the use of contaminated water, the immediate effect may be gastro-intestinal disturbance, or even typhoid fever. Just as one becomes habituated to the effects of tobacco, chloral, or cocaine, so that an extraordinary dose will be required to produce an ordinary effect, so the habitual introduction into the body of morbific agents may have the effect of fortifying the body against the usual consequences. Habits of overeating and habits of alcoholic intemperance carry with them distinct liabilities in middle or in later life to important and irremediable lesions of the kidneys and of the cardio-vascular apparatus.

Vocation or employment, in so far as it involves exposure to the influence of causes of disease, may be regarded as the basis of predisposition.

The second group of predisposing causes relates to the environment of the individual. Certain diseases prevail in certain localities and at certain seasons of the year. Asiatic cholera is indigenous in Asia, and yellow fever in the West Indies. In order to contract these diseases one must be in the infected area. Residence in the West Indies in the summer season is to be regarded as a powerful predisposing cause of yellow fever, and since that disease has never been known to spread epidemically in the Mississippi Valley above the latitude of Memphis, Tenn., it is obvious that residence in the city of Chicago, or in the city of St. Paul, would be attended with almost absolute freedom from liability to it. Smallpox, influenza and pneumonia are most actively prevalent in the winter season; malarial disorders and typhoid fever in the autumn season, and the intestinal derangements of infants and young children in the summer season of the year. Locality and season, then, may be of such power as to confer, in one case, absolute protection, and, in another, to be the basis of practical certainty that disease will be contracted. The habitation of the individual, his home, may also be operative in the

same way. Residence in low, damp, illy ventilated cellars or basements is strongly favorable to the development of rheumatism and rheumatoid arthritis.

Exciting Causes: The exciting causes of disease are divisible into two groups, (a) non-specific and (b) specific.

(a) Non-Specific causes are those which may produce a variety of effects. Thus, of several persons who have been drenched by reason of exposure to a violent storm, or the overturning of a boat, one may develop bronchitis, another pneumonia, a third rheumatism, a fourth gastro-intestinal inflammation, and a fifth and a sixth may escape altogether from injurious consequences. As has been previously said, we come into the world imperfect beings; we have inherited from ancestors peculiarities of metabolism which make us specially liable to particular types of disease. One is born with a weak stomach, another with an organic tendency to lesions of the vascular apparatus, another with feeble resisting powers of the mucous membranes of the body, so that when the circulation is violently disturbed and processes of metabolism and elimination seriously interfered with the effect of the operation of a non-specific cause is likely to be felt with maximum force in the weakest part of the body, or "the part of least resistance."

(b) Specific causes do not produce unvarying results. A grain of wheat planted in the soil will bring forth wheat or nothing; so the germ of disease, planted in suitable soil, will bring forth that disease or nothing. But disease germs of the same kind exhibit under different conditions varying degrees of morbific power. Some of the germs of typhoid fever are extraordinarily virulent, and others have little virulency. Hence the consequences of the operation of a specific cause upon the human body must depend, first of all, on the virulency or activity of the cause and the quantity that is brought into play.

On the other hand, human beings exhibit various degrees of susceptibility to the influence of specific causes, which are expressed in the words receptivity and immunity. In the case of one individual a comparatively small dose of a specific cause will bring forth the usual effects; and in another, a large dose of the same agency, by reason of better resisting power on the part of the individual, may fail to produce any effect at all. But it is true of a morbific germ as of a grain of wheat—it brings forth its own kind or nothing. Since a grain of wheat never, by any accident, can yield a harvest of corn, so is it impossible for a specific germ of one disease to bring forth the elements of a different disease. Specific diseases never change their type. Your hear physicians speak now and then of a case of sickness that had begun as a malarial fever, but has since turned into typhoid fever. The type of disease had not changed at all; the diagnosis of the doctor had changed.

In concluding the presentation of these facts appertaining to general etiology, let me occupy a moment of your time in the consideration of determining causes.

The exciting cause of pneumonia is presumably the pneumococcus. Without that or other micro-organism labor, pneumonia may not occur. Such organisms may be present in the respiratory passages of you or me now, but so long as equilibrium of circulation is maintained they are fought off or resisted by the tissues and do not get lodgment. But when violent perturbation of the circulation ensues, as a result of chilling of the surface of the body, in that instant or hour of disturbed circulation the specific germs which happened to be present take hold, find lodgment and multiply in the infected tissue. Under such circumstances it is customary to regard and designate the micro-organism as the exciting cause of the disease, and the chilling of the body is the determining cause.

Now, having considered in a general, and, admittedly, fragmentary, way, the etiology of diseases, permit me to invite your attention to a study of the results of the operation of the various causes. The first of these results to attract attention are perceptible derangements of physiology and of anatomy, which go by the name of symptoms.

Symptoms: The symptoms of disease, I repeat, are perceptible derangements of physiology or of anatomy—derangements that are cognized by the patient and revealed to the physician, or are discovered by the physician himself; but it is obvious that whether the patient or physician perceives such derangements or not, in no way affects the degree of intimacy in their relationship to the existing morbid process.

Symptoms are of two kinds, (a) subjective, (b) objective.

(a) Subjective: The first thing done in the direction of ascertaining the nature of a patient's ailment is to get the individual's own account of his case. There are some features of disease appreciable to the sick person which may not be known to the physician unless revealed to him. Pain, insomnia, dysuria, are among the symptoms of a subjective kind. A patient in describing his own ailment is extremely liable to error, partly in consequence of his inability to interpret accurately his own sensations, and partly in consequence of his inability to describe his sensations. One of the most important problems confronting the physician in relation to any case of sickness is that of determining how much of what a patient says can be relied upon as true. Errors of statement are often made by sick people without evil intent, with a view to influencing, favorably to themselves, the conclusions of the doctor. An intelligent individual, who is apprehensive of tuberculosis, may, in the statement of his case, minimize or altogether conceal the evidences, as he understands them, of that dread malady. On the other hand, it is not uncommon for sick people to exaggerate their aches and pains and other ailments with a view to giving the physician a due sense of their importance, or with a view to securing for themselves some advantage. Subjective symptoms, or the revelations of the individual to the physician, are to be scrutinized again and again. They may be made more definite and precise by processes of cross examination. But in addressing questions to ignorant people you are to exercise the greatest care in making sure that your questions are understood and that the patient understands the words he uses in answering. Errors are of common occurrence as a result of misunderstanding; the patient, acting in the best of faith, makes an incorrect statement to the physician because he misconceived the meaning of the question. The practical success of the doctor depends in large measure on his ability to sift the evidence presented to him by the patient, and separate the wheat from the chaff.

(b) Objective: In the case of objective symptoms it is different. They are discovered and scrutinized and analyzed by the physician himself. The problem that confronts him in this connection is that of finding and scrutinizing all the objective phenomena that exist and are open to discovery. This is not to be done by cursory inspection or a perfunctory interrogation of the individual. It can be done in no other way than by the most attentive study of every organ and function of the body. It is a common thing for medical men to maintain the pretense of thoroughness by asking for and taking with them specimens of the patient's urine, which they set upon their desks or mantlepieces and allow to remain there, without looking at them again, until the corks are blown out by decomposition of the secretion. It is a common thing for physicians even to treat their own children, or other members of their family; indeed, it is not uncommon for a physician to treat himself without ever taking the pains to make a systematic examination of his own body and its excretions. It has happened to me many a time to discover albumin, casts, blood, pus and sugar in the urine of well qualified medical men, or in that of members of their families, which had not even been suspected or looked for. Negligence or haste is oftener the cause of error in diagnosis than actual ignorance on the part of the doctor. I shall never weary of impressing upon the minds of medical students the importance of discovering every discoverable element of disease, for it is in this way, and in this way only, that one can attain even to reasonable reliability as a diagnostician.

Course: By this expression is meant the order of appearance of the derangements of function and structure constituting the natural history of disease. In many instances these events are divisible into stages. Variola, for example, is characterized by the period of initial fever, lasting ordinarily about three days. This is followed by a period of remission of fever, during which the characteristic eruption makes its appearance and advances to the maturity of vesication. The third stage, or that of suppuration fever, now makes its appearance and continues several days; this is followed by the stage of crusting of the pustules and separation of the crusts. In studying the stages of progress of an infectious disease you will find grouped together in each stage a definite array of phenomena which imparts individuality to that particular stage and enables the physician to identify it on

sight. It is of the greatest importance in this connection not merely to recognize the existence of a symptom, but to measure the peculiarities or the degree of its development. If a patient have fever, pain in the chest, cough, acceleration of pulse and breathing, it is not enough to know that these evidences of disease coexist; it is imperative that you should know the degree of elevation of temperature, the character and location of the pain, the quantity and qualities of the expectoration, the frequency of respiration and the frequency and character of the pulse. Each individual symptom is to be studied separately, and its relative prominence, as compared with other symptoms, is to be accurately appreciated. All this comes under the head of the course of diseases.

One of the most important of all facts involved in the evolution of disease is the element of time. The eruption of scarlatina appears at the end or during the course of the first twenty-four hours of febrile excitement. The eruption of variola makes its appearance ordinarily at the end of three days of initial fever; the eruption of rubeola makes its appearance usually at the end of four days of initial fever. Now, if a patient has been ill with a febrile disorder for a week and has not shown any eruption upon his body during that time, it is almost conclusive evidence that he is not affected with any of the eruptive disorders that have been named. A patient has had a neoplasm in his body for fifteen years without having undergone any perceptible deterioration of health; another patient has had a neoplasm growing for only a few months, and has lost during this time forty pounds in weight. The element of time enables the physician to differentiate between malignancy and non-malignancy; between eruptive and non-eruptive fevers, and even between eruptive fevers of different kinds. An intimate acquaintance with the course of diseases is the basis of power to differentiate them.

Complications: In any disease the resisting power of the body is more or less impaired. There is liability to intercurrent affections of various kinds. The existence of the primary disease may open doors or gateways for the admission of other specific causes. A diphtheritic infection of the throat prepares an admirable soil for the growth of pyogenic organisms. Systemic infection with the bacillus typhosus, or other species of morbific microphytes, may so impair resisting power of the tissues as to make them abnormally susceptible to the influence of any other morbific agencies that may be brought to bear upon them. Complications are, therefore, of common occurrence. But it is not always easy to discriminate between a true complication and an unusual localization of the original infecting matter. A patient begins to be sick with a sore throat; after this has existed two or three days he develops a pneumonia; after the pneumonia has existed a few days he develops a cerebro-spinal meningitis. The physician may say that the patient has pneumonia with complications, but it is his business to know that the various localizations which he had observed were the result of one and the same infection—pneumococcus infection. These various localizations are hardly to be considered as complications, since they are mere localizations of a general or systemic infection.

Duration: Many diseases are self-limited. They pursue a definite course and come to a spontaneous end. In the case of such disorders, when the duration is unusually protracted, you are always to suspect the existence of some underlying dyscrasia, and you are to search for it diligently. It is of importance to know the duration of a disease, not only in order to be able to impart that information to the patient and his friends, but also in order to be able to estimate the life prospects of the patient. Many diseases, however, are not self-limited; they keep on and on indefinitely, getting worse or remaining stationary, until arrested by judicious medical and hygienic treatment, or they advance to a fatal termination.

Terminations: Diseases terminate either in death, complete restoration of health, or in mere survival or recovery, with some remnant of the morbid process persisting. Many diseases are liable to injurious, and some of them to irremediable, sequels. It is of great importance to be acquainted with these tendencies and to guard against them.

Morbid Anatomy: In the minds of many physicians the morbid anatomy of a disease is of transcendent importance. It is often, but erroneously, regarded as "the disease." You have already learned that disease includes derangements of function as well as derangements of structure. It is

a condition of the living man, not a condition of the dead man. Derangements of function may kill. Pain may kill; persistent vomiting may kill; high temperature may kill; paralysis of a nerve or of a center may kill; paralysis of the heart may kill; asphyxia may kill; and all these may be mere derangements of function. Uremia may kill—a derangement of function. It is, therefore, a narrow and one-sided view that regards morbid anatomy as the only element of disease entitled to high consideration. It is impossible for you to learn the life-history of disease in the dead-house; you there discover merely the ravages of disease in structure. I would not have it inferred that I underrate the importance of morbid anatomy. By no means. But I desire to impress upon you the fact that morbid physiology may be, and often is, of greater importance.

Pathology: Pathology is the mechanism of disease, the effects and modus operandi of the cause. In your studies of materia medica you have watched the administration of strychnia; its absorption and diffusion through the body; its effects upon cord and nerves, upon muscle and circulation and respiration, and you have seen it kill by asphyxia. You have elucidated the modes of action by which these results were brought to pass. So in relation to a morbific cause. You study its nature, its habitudes, the conditions favorable and unfavorable to its propagation; its modes of entering the body; what becomes of it in the body; the effects it produces on function and structures; its mode of causing death, and the lesions it leaves after death. This is pathology, the mechanism of disease, the effects and modus operandi of causes.

This completes what I have to say on the general subject of Natural History. Let me occupy the remainder of the hour with a brief discourse on Diagnosis, Prognosis, Prevention and Treatment.

Diagnosis: As has already been pointed out, disease exists and pursues its course, whether it is identified by the physician or not; hence diagnosis is the result of a mental process on the part of the physician. The meaning of the term is variously understood. Etymologically, it signifies "To see through a disease;" practically, it means the labeling of a disease. Stated with some attempt at scientific precision, the problem of diagnosis is as follows: Given: Certain derangements of function and structure which are perceived by patient or physician, to assume with accuracy the existence of non-perceptible derangements, which are essential elements of the totality to which you are to give a name. It is usually satisfactory to non-medical persons to receive a definite, familiar name for an existing ailment, but as the knowledge of the medical man enlarges and becomes more and more definite, he gets to understand that names are of uncertain value. In the case of pneumonia alread cited: Formerly it was sufficient to say that the patient had pneumonia and that complications existed whose relations to the pneumonia were not comprehended. Now we say the patient has pneumococcus septicaemia, with multiple localizations of the organism. The diagnosis of disease is one of the most important functions of the physician. When men of experience and position are called in consultation the occasion of it usually is the failure, but usually not inability, on the part of the attending physician to identify the disease. Intimate acquaintance with the natural history of diseases is an indispensable prerequisite to accuracy in diagnosis. It is impossible for a physician to be a competent diagnostician who is not well grounded in these matters. On the other hand, it must be freely admitted that errors in diagnosis and failures to reach any conclusion are oftener due to carelessness than to ignorance on the part of the physician. It is not possible for any man, no matter how learned or experienced, or however penetrating his judgment, to arrive at correct conclusions unless he have a sufficient basis of fact to support those conclusions. You have read of the Bertillon system of identification of criminals. It is based upon the systematic scrutiny and the accurate recording of peculiarities of conformation. Asymmetries of face, or of a particular feature; the absence of a finger or of a tooth; the presence of a misshapen tooth; the location of moles, warts or scars; length of limbs; complexion; color of eyes and of hair; deformities; height; weight; age; sex; girth of chest, and every other detail requisite to the identification of the individual is duly noted. Two persons may look very much alike and be easily mistaken for one an-

other, but if they are subjected to the scrutinizing Bertillon system of examination, one is distinguished from the other and identified with the utmost cetrainty. So in relation to diseases exhibiting strong similarities of external manifestation. They are not to be distinguished from one another by superficial or casual inspection. Every feature must be scrutinized, every element must be weighed and measured. and upon the basis of such a systematic, analytic study of every mark and feature, the disease may be identified with approximate certainty. No man is infallible. He is a physician of superior capacity who is able to make a thorough, comprehensive diagnosis in ninety per cent. of the cases submitted to him. Liability to error is so strong that it should serve as a commanding warning to every practitioner to exercise the greatest possible care and thoroughness in the elucidation of all facts which may serve to throw light upon the case.

Prognosis: One may have skill as a diagnostician; he may have profound and varied learning, and yet may not possess good judgment in respect to the tendencies of disease. It is one thing to be able to acquire information; it is another thing to be able to use it. There are qualities of mind that come into play in relation to diagnosis and prognosis, which serve to distinguish the man of ability from the man of inferiority. The student who has triumphed in his class over his fellows by reason of facility in memorizing, may be passed in the race for the recognition and favors of the world by reason of the superiority of his competitors in powers of observation, discrimination and reflection. Accuracy in prognosis is of indispensable importance. You are to know in relation to each disease the mortality rate and the evidences in the case before you, of favorable or unfavorable progress, and you are to study each individual with a view to ascertaining his life prospects, first, by considering the mortality rate of disease, and then by estimating as accurately as possible the resisting powers of the patient. You have already learned that some people endure an enormously greater amount of sickness. and triumph over it, than others. The family physician who is well acquainted with the constitution or resisting powers of his patients has, therefore, a great advantage over the strange doctor called in consultation, in matters appertaining to prognosis.

Prevention: The highest duty of the medical man is the prevention of sickness, of sorrow, of pain, of death. Many diseases of an infectious kind are known to be preventable. Continued activity of prevalence of these disorders is to be regarded as a reflection upon the civilization of our time. Many other diseases are preventable by proper attention to diet, clothing and habits of life. A physician is never to lose sight of the fact that the highest obligation that is imposed on him is the prevention of disease in those who look to him for guidance.

[TREATMENT.—et. seq. will be found in succeeding issues of the Clinic.—Ed.]

Treatment of Hip Disease.

B. E. McKensie (Canadian Practitioner and Rev.) gives an interesting review of this topic. The following is a summary:

1. Hip disease is a local manifestation of a constitutional disease.

2. Early operative interference is seldom justifiable.

3. As soon as softening can be determined the surgeon should operate and obey indications, observing all care not to injure needlessly the mechanical integrity of the joint, and knowing that he is but aiding nature by removing tissue that she has already cast off.

4. In the management of the wound the principles of asepticism and antisepticism must be carefully observed.

5. From the earliest moment efficient protection for the joint should be secured and constantly maintained by a well-fitting mechanical appliance.

6. Constitutional treatment is indicated as in other tubercular affections. Great emphasis should be laid on obtaining the freest exposure to sunlight and fresh air.

7. After excision a perfect recovery is never effected, the mechanical integrity of the joint having been interfered with.

8. Following mechanical and constitutional treatment, perfect restoration of function is sometimes secured.

9. Even when softening of tissue occurs and necessitates incision, there is sometimes a perfect restoration and frequently a highly useful return of joint function.

THE MEDICAL LIBRARY.

An American Text-Book of Diseases of the Eye, Ear, Nose and Throat.

By 58 prominent specialists. Edited by G. E. de Schweinitz, M. D., Professor of Ophthalmology in the Jefferson Medical College, Philadelphia, and B. Alexander Randall, M. D., Professor of Diseases of the Ear in the University of Pennsylvania and in the Philadelphia Polyclinic. Price, $7.00, cloth, net; sheep or half-morocco, $8.00, net. Published by W. B. Saunders, Philadelphia.

Among all the members of the American text-book series, which have been issued by the Saunders house, no one in our opinion is more deserving of an unreserved indorsement. The work, as a whole, is both a text-book and also a book of reference for the practitioner. The editors have shown, it seems to us, rare, good judgment in the selection of their associates in the production of the volume. They have chosen men of prominence in every instance, and practically every department is written by a man who has already attained a reputation for that line of work, in those classes of disease; they have thus always presented the practical side of the subject.

Several unusual and valuable features are to be found in this volume, among which we would call especial attention to the following: Special articles on Standards of Form and Color Vision Required in Railway Service, The Roentgen Rays in Ophthalmic Surgery, The Practice of Ophthalmic Surgery on Animals' Eyes, Microorganisms and Ophthalmic Disorders.

Among the important subjects which are thoroughly discussed we note such a large number that deserve particular mention that space forbids further than to say that in each case the Symptomatology, Etiology, Diagnosis and Treatment are brought out fully, thus giving the practical the deserved importance; these, however, are never made prominent at the expense of Pathology or other salient considerations.

In the portion of the work devoted to the eye, its embryology, anatomy, histology, physiology, diseases and injuries are discussed in twenty-four sections, by as many different men; its operative surgery in seven sections, by seven authors; while other correlative matters receive attention in five sections of the appendix.

In the portion of the work devoted to the ear, its anatomy, physiology, diseases and injuries are discussed in thirteen sections, by fourteen authorities; while diseases of the nose and throat are described in twenty sections by nineteen authors.

One of the most important desideratums in a work of this character is the amount and character of its illustrations. We need only to mention that the volume contains about 700 fine illustrations, and in addition thereto has fifteen full-page plates, several of which are of exceptional worth.

Each contributor is held responsible for opinions expressed in his article. This is, of course, the only equitable arrangement possible. For we do not apprehend that either of the able editors would be willing to stand for all that is in the volume. Individuality and personal opinion will of necessity come to the surface unavoidably. For instance, any of the operations might be objected to by someone whose experience had seemed to teach them that some other operation was more preferable. It is, of course, well understood that it is in a volume of convenient size utterly impossible to discuss every theory that may have the apparent support of many prominent authorities. The authors have evidently attempted only to give that which was generally accepted as settled fact, and hence have in a large measure left out entirely those questions on which there is any considerable difference of opinion. In that way they have greatly enhanced its value to the general practitioner and student as a text-book; the specialist cannot afford to be without it.

Pages 1,214 to 1,252 comprise an exhaustive and most valuable index of the entire volume, which adds very greatly to its worth as a reference book. This is also supplemented by the fact that wherever there is a discussion of the same topic by some other writer in the volume, such other discussion is referred to by careful footnotes.

A Text-Book on Practical Obstetrics.

By Egbert H. Grandin, M. D., Gynecologist to the Columbus Hospital; Consulting Gynecologist to the French Hospital; late Consulting Obstetrician and Obstetric Surgeon of the New York Maternity Hospital; Fellow of the American Gynecological Society, etc. With the collaboration of George W. Jarman, M. D., Gynecologist of the Cancer Hospital; Instructor in Gynecology in the Medical Department of the Columbia University; late Obstetric Surgeon of the New York Maternity Hospital; Fellow of the American Gynecological Society, etc. Second edition. Revised and enlarged. Illustrated with sixty-four full-page photographic plates and eighty-six illustrations in the text; 6½x9½ inches. Pages xiv-461. Extra cloth, $4.00 net; sheep, $4.75 net. The F. A. Davis' Company, publishers, 1914-16 Cherry street, Philadelphia.

All modern text-books must of necessity be in a practical style, else they will fail of appreciation by the modern student of medicine. This volume has been written with full appreciation of such fact, and is consequently largely in the manner of a clinical lecture.

The authors have quite properly assumed that the student or practitioner to whom the book comes has had a sufficient training in the anatomical, embryological and pathological groundwork which is so necessary to the proper understanding of the subject of obstetrics, and hence the volume treats only of the subject of obstetrics. It seems to us that this volume is a decided improvement over all others in that important particular, inasmuch as all correlative data are omitted.

It is also a pleasing feature to note that the old-time wood cuts which from the earliest obstetrical writings adorned the pages of each new one as it appeared, are in this instance absent, and in their places are to be found elegant half-tone plates taken from nature.

In Part II—Labor, we find the following chapters: 1. Mechanism of Labor; 2. Clinical Course of Labor; 3. Normal and Abnormal Labor; 4. Care of the Newborn Infant.

In Part III we have the Normal and the Pathological Puerperium.

In Part IV we find a discussion of Obstetric Surgery in all its essential and important details. One feature which we are especially pleased to notice is the omission of all the usual lengthy reference to the anomalous and monstrosity conditions which are so frequently used as an embellishment of this class of works.

The volume is well written, it is clear cut, practical, brief as the subject will permit, and is to be commended as a valuable addition to our obstetric library.

CHICAGO CLINICAL SCHOOL.

The following operations were performed in the West Side Hospital, during the month of February, the students in attendance at the Chicago Clinical School being present. Compiled by Senior Interne Dr. Bebb:

5 Perineorraphy.
6 Trachelorrhaphy.
5 Hysterectomy—Vaginal.
2 Hysterectomy—Abdominal.
3 Curettment.
2 Salpingectomy.
5 Partial Excision of Cystic Ovaries.
2 Ovarian Cyst.
2 Fibro-adenoma of Mammary Gland.
8 Appendicitis—Appendectomy.
5 Adenoid Operation.
1 Intestinal Obstruction—Volvulus.
6 Herniotomy.
1 Herinotomy—Strangulated Hernia.
1 Nephroraphy.
1 Abscess of Liver—Drained.
2 Urethrotomy—External.
1 Urethrotomy—Internal.
1 Osteomyelitis of Femur—Curettment.
4 Tonsillectomy.
5 Tonsillotomy.
1 Amputation of Leg—Gangrene.
2 Mastoid Operation—Drainage.
2 Circumcision.
3 Varicocele.
1 Removal of Ossicles—External.
1 Tuberculosis of Ribs—Resection.
1 Tubercular Sinus of Knee-joint.
2 Tubercular Testicle—Castration.
1 Tubercular Glands of Neck—Excision.
1 Sarcoma.
1 Carcinoma.
2 Deviation of Septum.
1 Abnormal Union of Fractured Forearm Refractured and Ulna Wired.
1 Trephining—Epilepsy.
3 Nasal Exostoses—Removed.
1 Gunshot Wound of Back—Drained.

The Chicago Clinic.

A HIGH-GRADE MONTHLY PERIODICAL DEVOTED TO THE MEDICAL PROFESSION.

J. HOMER COULTER, M. D., Editor.

Brief news items, reports and papers of interest from any section of the country respectfully solicited.

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EDITORIAL AND BUSINESS OFFICES:
819 W. Harrison St., Chicago.

SOME MEDICAL CONTRIBUTORS.

We are not intending to criticise the authors whose names appear in the columns of the Clinic, but rather offer some suggestions to those who have not contributed and some consolation to the few whose contributions we have been compelled to return for one or another reason.

The modern idea of a brilliant, smart or wise medical man is founded too often upon the ability of that individual to fluently express ideas, more frequently borrowed than original, in an entertaining manner. But nevertheless they are successful in the attempt to utilize their wisdom to an advantage to themselves, because they clearly and plainly express generalized ideas in writing or speaking. They have taken up the rough, uninviting, apparently unprofitable material which has chanced to come in their way and have smoothed, reshaped and fitted it into a suitable place; then, by the exercise of good judgment, this material is written or delivered at the proper time, and we call him a versatile genius—wise, brilliant, talented or intellectual.

Now, is it not often true that such an one, after all, only does what the majority might do—a little better than the majority would do it? Someone has said, "Success depends not so much on doing things well as in doing them a little better." To the busy physician, who is asked to contribute to the journals, this may sound somewhat ominous and lead him to surmise that perhaps a "woolsack" has been placed upon the tripod in the Clinic office. Yes and no; yes to the effect that to be successful we must have various points of excellence over our contemporaries; our contributions must be of some special merit, some originality, some interest, some value, some finishing and completing touches put on them which will compel our critics to admit their excellence. On the other hand, we would answer no to the effect that we do not wish our criticisms, suggestions or the free use of the editorial blue pencil to discourage, and certainly not to offend, our most modest contributor.

Too often, we fear, the literary, intellectual and scientific monuments which some few men have erected in the field of medicine serve as much to dishearten as to encourage the untried quill of the multitude of busy physicians, whose experiences and practical observations, if accurately written or told, all the better if devoid of the questionable embellishments of scientific rhetoric, would do as much toward the hastening of the millennium of medicine as does the bacteriologist in the laboratory or the most carefully introspective clinician in his college work. A man possessing an ordinary amount of intelligence, who has practiced medicine successfully for even a few years, must have some considerable knowledge, but are you, my friend, going to be a medical anchoret, not even as valuable as a "year book" or a "cyclopedia?" Such an one may have knowledge, but he cannot be wise.

"Knowledge and wisdom, far from being
one, have ofttimes no connection.

Knowledge dwells in heads replete with thoughts of other men,
Wisdom in minds content to lend their aid."

Few men there be but have some good thoughts, some valuable and practical suggestions from experience if we could but get hold of them. They do not keep them entirely to themselves, either because of selfishness, because more generous men than physicians do not live, nor because of modesty, for they are also human; nor can it be on account of laziness, for that condition is incompatible with the very existence of the busy physician. Perhaps it is only and always because they are busy doctors, whose very life is given up to the woes of others.

When you have read this journal through stop for a moment—call the roll of your good thoughts and valuable experiences and see if among them there are not several which you owe to the profession. Make them come forth from their nooks or crannies, give them to us, and make room for the newcomers we bring you from others. C.

PROSPECT AND RETROSPECT.

Retrospectively, we have, we believe, more than fulfilled the voluntary promises made our readers over one year ago. The size of the Clinic has been more than doubled, and we are told by many that the subject-matter itself has improved in a like proportion.

For the immediate future the prospect is quite as encouraging as the most sanguine could expect. Among other good things in prospect we are especially gratified in being able to promise our readers several features of unusual excellence during the coming months. Prof. H. N. Moyer, well known as a writer on neurological and medico-legal topics, and also as editor of "Medicine," has promised to give us a series of short practical talks on various topics in his line, under the head of "Saturday Lessons in Neurology," the first one of which appears in this issue of the Clinic. To this we refer those who may not be acquainted with the author or his writings; with others such reference is unnecessary.

Another feature of equal import and interest will be found in the series of articles promised us each month by Prof. William E. Quine, Professor of Medicine and president of the faculty of the College of Physicians and Surgeons (medical department of the University of Illinois). These articles will be upon the subjects of his lectures to the senior class in the above institution. Each, however, will be, not an abstract, but complete in itself, rewritten from the dictation of and revised by Prof. Quine. We would feel particularly honored by the promise of either one of these series of papers, and all the more so in being able to present them at the same time. We are certainly entitled to denominate these as special features.

We ordinarily dislike to see editorials speaking too boastingly of oneself, but in the past month we have received such an unexpected ovation from various friends and subscribers in the way of compliments that we can scarcely refrain from reference to them particularly. We assure each one, however, that these letters and kindly words are to us a matter of more than ordinary import; they are an encouragement and indorsement of our efforts that is most gratifying.

The number of new subscriptions received and the inquiries voluntarily coming in for advertising prices is likewise flattering to the business management. In this connection it may not be out of place for us once more to specifically call the attention of our readers to the fact that we have always, and under all circumstances, maintained in these pages a scrupulous care that our space should be sold only to those who were deserving of the support of the profession

While such a course in the beginning was the loss of a few dollars to the Clinic, yet it has been more than made up in the fact being well established that we were making an honest effort to establish a medical journal on a high plane. That such has or has not been accomplished we leave to our readers to decide for themselves.

DR. JOHN A. BENSON.

Who will be next? Hamilton, Etheridge and Benson. Little we would have thought of selecting these three men as the first among the medical faculties of this city to be called upon to give up the pressing duties of life and pass over to their reward and rest.

Dr. John A. Benson, professor of physiology at the Chicago College of Physicians and Surgeons, died March 9th, at his residence, 833 Washington boulevard, after an illness of two weeks. Dr. Benson had been suffering from an acute attack of nephritis, and when apparently recovering he was stricken by the grip. He was unable to combat the complications which followed on account of his weakened condition.

Dr. Benson had been failing for some time and a year ago was given leave of absence from his duties and only resumed his work two months ago. He was one of the most popular professors at the college. He was a hard worker, an excellent instructor and took great personal interest in the work of his students. For these qualities he gained the respect and love not only of the men who worked under him, but of the entire student body.

Dr. Benson became a victim of Bright's disease last August. The attack was semi-acute, however, and his physicians felt that it might yield to treatment. He recovered to all appearances, but an attack of grip lately brought on the former malady with increased intensity. The inflammation of the kidneys was so much increased that nothing that science could do would make these organs properly perform their functions. From that point in the case the patient slowly succumbed. His physicians saw the trend of the disease and practically gave up hope soon after the grip set in.

John A. Benson was born in Hoboken, N. J., in 1859, being therefore at his death about 40 years of age. He graduated from Columbia College of Physicians and Surgeons, where he had been chief assistant to Professor Dalton, in 1879. A little later he was commissioned to Washington with the United States Marine Hospital, was transferred from that place to Cairo, and then to Chicago. His experience in all fields of medicine and surgery had been so practical that in 1884 Dr. Benson decided to resign his post and establish a private practice in Chicago. He did so, and soon became successful.

He was elected to the chair of Physiology in the College of Physicians and Surgeons soon after he left the marine hospital. He was also made secretary of the medical staff of the county hospital, and somewhat later medical superintendent of the Dunning hospital for the insane.

Since 1892, however, he had been giving most attention to his private practice. Dr. Benson was a close student and a writer on medical topics. His work on Asiatic cholera has attained general recognition from the profession. He had all but completed a book on physiology when death cut him short. His death is regarded as most untimely and has caused general and deep regret among the members of the profession in Chicago and other cities where Dr. Benson was best known.

FEE FOR APPENDICITIS.

To the young and aspiring surgeon, and, indeed, often to those who already wear the silver crown of age, the report of a large fee for any surgical operation becomes quite as frequently a source of discouragement as it is a stimulation to the weary plodder. In this connection we would call attention to the fact that reputations are

sometimes very materially "boosted" by the fact that large fees are charged. In other words, if there is a "backing" of real ability in the surgeon, large fees will establish reputation quite as much as will reputation warrant large fees.

In the incident about to be referred to. however, the matter of ability does not enter as a factor; that has been long since established. It shows once more that ability is not always rewarded, spontaneously at least. The story is a true one and will therefore bear repetition.

The son of an Iowa farmer had an attack of appendicitis. The local physician was a talented man and had by careful attention brought the case to a successful termination, so far as the acute symptoms were concerned. There remained, however, some tumefaction and tenderness about the region of the appendix. The farmer, having occasion to ship several carloads of stock to Chicago, thought it would be a good idea to bring the son along with him so that they might consult a noted Chicago surgeon of whom the father had heard much.

Arriving in the city, they sought and found the office of the said surgeon. Just coming in from the stockyards, and the nature of their business there, precluded their appearance in the habiliments of a State street dude, even had they been so inclined. Thus bedraggled, with hair unkempt and turned-up pants, they appeared. The father related the sickness of the son to the surgeon, and as well told him of all that the family physician had said and done for the case. After a very thorough examination the surgeon confirmed the diagnosis previously made and advised operation as the only course.

After some moments' consideration and many questions the farmer asked how much such an operation would cost him, to which the surgeon replied, with no slight compunctions of conscience, "To you I guess about $100." The father, with a long-drawn breath, remarked, "I guess I can stand that," and proceeded to write a check for the amount. Handing it to the surgeon he said, "Take the boy to the hospital and operate upon him as soon as you can."

The same was done the following morning, after which the surgeon came as usual to his office, where he found a letter from the family physician above referred to, in which was detailed a full history of the case and ending with this sentence, "This man is supposed to be one of the wealthiest landowners in this part of Iowa; he is amply able to pay you a handsome fee, and goes expecting and prepared to do it."

The surgeon, it seems, did not dictate his reply to the physician to the stenographer, but preferred to write it out with the pen, but, being unaccustomed to the intricacies of the letter press, however, the copy is almost illegible, the only words which it is possible to decipher certainly are "kick me."

Dr. Marie J. Mergler, one of the foremost of the women physicians and surgeons of the country, has just been made dean of the Northwestern University Woman's Medical School. Dr. Mergler is the first woman to hold that high position at Northwestern. She succeeds Dr. I. N. Danforth, who has been given the honorary title of dean emeritus in recognition of his long and eminent services to the school.

The profession of Los Angeles are erecting a new building to be used for medical society purposes. So also are the Cleveland physicians engaged in a like commendable project. In each of these buildings a considerable portion of the space is to be reserved for the use of medical libraries. The principal object of such library is to keep on file as much of the recent medical literature as is possible to obtain in the way of standard periodicals, reprints and new books, and to have such matter properly arranged and classified that the practitioner can find what he desires with a minimum loss of time.

ABSTRACT.

Diphtheria and the Chicago Health Department.

In a recent report on this subject to the Chicago Medical Society, Dr. W. Q. Jaques reports in the "Recorder" as follows:

As much of the excellent showing of the diphtheria work in the Chicago Health Department is due to the prompt and cordial coöperation of physicians, we take this means of informing them of the recent results in the charity cases treated by the Antitoxin Staff.

During the months of November and December, 1898, the Antitoxin Staff treated 219 cases of bacterially verified diphtheria. Since the report for the last month was made two of the cases still under treatment died, making a total of nine deaths out of 219. Four of these were intubation cases, there having been 23 intubations during the two months.

You will observe from the schedule that no deaths occurred on either the first or second day of treatment; only one on the third day, and that in a child under one year old. The end of the third day seems to be the determining line in antitoxin treatment of diphtheria. On the fourth, or later than the fourth day, the deaths occur in the largest proportion.

Nearly all these cases were referred to the department by physicians as charity cases, the patients being too poor to buy antitoxin or pay for the services of a physician.

When such a call comes to the department an inspector is sent with instructions to give antitoxin, if symptoms indicate it, and to take a specimen from the throat for culture. If the culture reveals the presence of the Klebs-Loeffler bacilli, the case is then classified as "bacterially verified diphtheria." A card is posted on the door, and if death occurs a burial permit is issued by the department.

In every case a record is kept by the inspector of the name and address of family visited, name and address of physician referring the case, if any; a slide showing result of culture, and the final result of the treatment. This work is free for inspection at any time at the department. The inspectors who do this work are all members of this society, and, with one or two exceptions, all hold responsible positions as instructors in medical colleges.

As far as we know, this is by far the best record ever made in the treatment of charity diphtheria patients, and is a splendid example of coöperative effort on the part of the Health Department and the medical fraternity.

I think the profession will agree with me that we have as much diphtheria in Chicago as ever before, and that it is just as malignant; but that it has been more successfully treated than ever before is demonstrated by the reduced death rate, which shows nearly a hundred less than last year. Those patients who do not receive the proper treatment die in the same proportion as heretofore.

The Use of the Curette.

The dangers of the curette are numerous.

The first danger is perforation of the uterus; however the perforation may be due to preliminary dilatation.

Perforation by the curette is not uncommon in malignant disease.

Large numbers of operators report perforation by the curette.

In a septic uterus the walls are very friable and extremely easy to perforate. After abortion or labor perforation by the curette is most frequent and easy at the old placental site.

Most inexperienced operators perforate the uterus while incautiously introducing the curette.

To prevent perforation by the curette it is well to hold the hand on the fundus and locate the points which one wishes to curette.

Should the curette slip beyond the resistance it is well to withdraw the curette and measure with a blunt sound. With a perforated uterus use ergot and opium.

Uterine perforation by the curette does not call for hysterectomy.

If intestinal hernia occur it would require hysterectomy. Death occurred in a London hospital two days after curettage from sepsis.

The curette makes rapid pyosalpinx out of salpingitis.

In some cases the passing of the curette through the uterine walls is only the evidence of a metro-peritoneal fistula.

Never curette without previous careful bimanual examination.

A physician curetted a patient from whom a membrane was expelled; death rapidly followed. The autopsy showed that the woman had an ectopic pregnancy which a bimanual examination would have sufficiently revealed to avoid the curette.

Program

for the Tri-State Medical Society of Iowa, Illinois and Missouri, at Quincy, Ill., April 4 and 5, 1899:

"Tachycardia, Paroxysmal," A. S. Mackey, Louisiana, Mo.; "A Case of Brain Tumor Presenting Chiefly Occular Symptoms," J. M. Ball, St. Louis, Mo.; "Glaucoma," R. M. Lapsley, Keokuk, Ia.; "Diseases of the Nasal Sinuses and Middle Ear as Seen in La Grippe," F. A. Boucher, Marshalltown, Ia.; "La Grippe," O. F. Pile, Memphis, Mo.; "Treatment of Adenoids and Turbinated Hypertrophies," A. E. Prince, Springfield, Ill.; "Treatment of Endometritis," J. C. Murphy, St. Louis, Mo.; "Indications and Contraindications for Hysterectomy in Uterine Fibroids," M. B. Ward, Kansas City, Mo.; "Curative Action of Ergot Upon Certain Uterine Myomas," Henry T. Byford, Chicago, Ill.; "Uterine Fibroma," F. B. Dorsey, Keokuk, Ia.; "Uterine Fibroma," O. B. Campbell, St. Joseph, Mo.; "Treatment of Retroversion of the Uterus," F. H. Martin, Chicago, Ill.; "The Latest Treatment of Tetanus," E. Lanphear, St. Louis, Mo.; "Results of Neglected Cases of Cervical Laceration," Jos. B. Bacon, Chicago, Ill.; "Early Surgical Interference per Vaginum in Pelvic Inflammation," D. F. Monash, Des Moines, Ia.; "Some Uses of Actual Cautery in Gynecological Therapeutics," O. B. Will, Peoria, Ill.; "Abdominal Incision and Suture," Francis Reder, St. Louis, Mo.; "Some Uses of Esmarch's Bandage," T. J. Maxwell, Keokuk, Ia.; "Strangulated Hernia," A. W. Williams, Quincy, Ill.; "Diagnosis of Surgical Diseases of the Kidneys," A. H. Cordier, Kansas City, Mo.; "Movable Kidney," Lewis Schooler, Des Moines, Ia.; "Decapsulization of the Kidney for Special Pathological Conditions," A. H. Ferguson, Chicago, Ill.; "Bone Splitting," A. H. Meisenbach, St. Louis, Mo.; "Treatment of Fractures of the Thigh," Edward Borck, Red Bud, Ill.; "Esophagotomy," C. H. McGee, Unionville, Mo.; "Nerve Exhaustion," J. F. Herrick, Ottumwa, Ia.; "The Results of Special Treatment of Epileptics in America Compared with Methods and Results of Specialists Abroad," J. W. Fowler, Dubuque, Ia.; "Self-Intoxication," S. K. Davis, Libertyville, Ia.; "Dietary of Infancy," F. B. Hiller, Kahoka, Mo.; "Professional Perplexities," Geo. P. Neal, Ft. Madison, Ia.; "Uric Acid and Its Serious Results When Not Eliminated," M. S. Marcy, Peoria, Ill.; "Status of Typhoid Fever," J. E. Parrish, Memphis, Mo.; "Gangrene from Carbolic Acid," H. A. Leipziger, Burlington, Ia.; "Surgical Treatment of Habitual Criminals," J. J. Ochsner, Chicago, Ill.; "Supra-pubic Lithotomy," J. J. Brownson, Dubuque, Ia.; "Application of Cold Water to Allay Persistent Vomiting," W. F. Mitchell, Lancaster, Mo.; "Tuberculosis Treated with Large Doses of Creosote," J. H. Coulter, Summitville, Ia.; "Tuberculosis by Surgical Means," J. B. Murphy, Chicago, Ill.; "Pneumonia," J. T. Lambert, Farley, Ia.; "Pneumonectomy, Its Possibilities as the Future Treatment of Incipient Pulmonary Tuberculosis," John S. Pyle, Toledo, Ohio; "Gall Stones," D. C. Brockman, Ottumwa, Ia.; "Surgery of the Gall Bladder," J. R. Hollowbush, Rock Island, Ill.; "Enterorrhaphy," J. I. Skelly, Pekin, Ill.; "Intestinal Constipation and Its Etiologic Effects," H. C. Markham, Independence, Ia.; "Pelvic Reflexes," F. B. Robinson, Chicago, Ill.; "Some Remarks on Appendicitis," J. F. Percy, Galesburg, Ill.; "Puerperal Eclampsia," R. B. Turner, Canton, Mo.; "Melano-Sarcoma, with Report of a Case," T. B. Ellis, Bethany, Mo.

Address all communications to the President, Dr. C. E. Ruth, Keokuk, Ia., or to the secretary, Dr. J. W. Fowler, Dubuque, Ia.

The Encroachment of the Surgeon on the Domain of Medicine.

The closing quarter of the nineteenth century has wrought a most astounding revolution on the diagnosis and therapy of disordered health.

The first far-reaching impetus came with the discovery of pulmonary anesthet-

ics a half century ago; next came the invention of the highly magnifying lens, and lastly Pasteur's work on bacteriology, with the utilization of the analine dyes for staining.

Surgery advanced by leaps and bounds; though, withal, its progress was continuous, conservative and limited, until Lord Lister instituted the antiseptic treatment of wounds.

This forever removed the greatest danger attending surgical intervention.

Then came the local anesthetic for the surgery of the periphery and the orifices; so that, indeed, it appears but little remains for the physician.

But to any impartial observer it is only too evident that in many directions surgery has been very much overdone, and hence many procedures are not operations, but mutilations.

It should never be forgotten that surgery should never be resorted to except as an extreme measure, when all others have failed.

The human being instinctively revolts against sanguinous measures and is always more grateful to the physician who carries him through without the use of the scalpel.

The fact is, we have something like a superabundance of surgeons, but skilled physicians are scarce. Practical medicine has lost ground in the attempt to reduce medicine to an exact science; and the overstudy of pathology to the neglect of clinical medicine and therapeutics has resulted in visionary fanatics where broad minds and experience are needed.

Surgery has reached its climax, while skilled, trained therapeutists for internal maladies are sadly needed.—Compend.

Thrombosis and Embolism After Childbirth.

Singer shows that thrombosis and embolism is an important complication of childbirth, and one which is often overlooked. He reports thirty-five instances of its occurrence. From a study of these cases the following conclusions are drawn:

1. Formation of the thrombus is preceded by an irregular rise in the pulse rate. This rise is associated with the development of the thrombus, and the maximum is reached when the thrombus is completely formed or symptoms develop in the lungs.

2. The curve of the pulse is characteristic.

3. In a typical pulse-curve in thrombosis the pulse rises, while the temperature remains normal. It remains high until the development of edema or a palpable hard cord or symptoms referable to the lungs cause the temperature to rise. If in the next few hours or days the temperature falls the pulse still remains high for some days longer.

4. A variation from this type is found in those patients in whom other causes have produced high temperature before the development of thrombus.

5. In such cases the thrombus is apt to be an infected one, and the discharges of the patient should be carefully examined in order to ascertain the character of the infection.

6. Such examination will often reveal the presence of gonococci.

7. The good results from the treatment of thrombosis follow its early detection, hence it is of importance to note carefully the pulse-curve as well as that of the temperature.

8. Rest in bed is the most important part of the treatment. Above all things the patient must not be allowed to sit or stand up. The pulse is the absolute guide. The patient ought to be kept in bed at least three weeks after the pulse has become normal. —Med. Standard.

The Surgeon's Assistants.

Asepsis is the key to all successful surgery. The operator is the one on whom all responsibility rests. He will feel the necessity of thorough asepsis more than any person else. His chief assistant will be only second in degree in the keen sense of anxiety as to the result, while the nurse in charge of the operating room will be third.

These three persons will jointly feel that a great weight rests upon them in each surgical case and will await with anxious suspense until the time for development of septic fever has passed. Additional assistants and additional nurses cannot be so deeply interested. Each additional hand that touches an instrument or piece of gauze that comes in contact with the wound greatly increases the danger of a flaw in the aseptic chain.

Spectators who do not pretend to be assistants and who do not approach the basins where the operator prepares his hands, and who do not come near the instrument trays or the gauze, are in no wise dangerous.

It is the unnecessary increase of those who are called assistants that we feel impelled to protest against. There are very few operations where it is necessary to have more than one assistant. A spectator whose hands need not touch anything that is to touch the wound can put his hand under the tray of instruments and hold them close to the operator; the nurse need not touch the gauze after it has been sterilized, but can hold it in its packet or container in easy reach of the operator. Many European operators limit their assistants to one assistant surgeon and one nurse. Delageniere, in his recent work on the surgery of the uterus, advocates having but one assistant, who holds the instruments, sponges or retracts; the surgeon does everything else. It is misplaced courtesy to ask a man to assist in an operation when you do not really need him.

The surgeon who has as nearly as possible the same assistant at every operation will greatly simplify his work. If he is in the habit of having a young man whom he knows is thorough in his preparation, and who knows just what the surgeon wants, this personally trained young man should not be asked to step aside to make a place for some old confrere who happens to be present. Such courtesy is almost criminally misplaced.—Ed. S. Califor. Pract.

The Abuse of the Electric Cautery in the Nose.

H. Holbrook Curtis, M. D., of New York, read a paper with this title before the Section of Laryngology of the New York Academy of Medicine, November 23, 1898, which appears in the January number of "The Laryngoscope," in which the author disapproves of its use. He says:

"In 1889, I sounded in the Academy of Medicine a warning against the indiscriminate use of cocaine in the nostrils, and I was indeed surprised to find that the concensus of opinion at the time was in direct opposition to my contentions. Upon one or two occasions later I ventured the prediction that the galvano-cautery would not be employed for any length of time upon the septum narium, and it is in support of this hypothesis that I call the attention of the Section to one or two cases of grave complications following this procedure. My opinion has been that the use of galvano-cautery is both unsurgical and unscientific, and admits in its employment the possibility of unfortunate results.

"Virchow has recently shown that the process of repair in cartilage is not due to a process of exudation, but, like the process of repair in the cornea, due to a proliferation of pre-existing cells. Now the effect of the thermo-cautery is to change the nature of the cartilage cells and to prevent the power of healthy repair by proliferation, which most clearly demonstrates the reason of the unhealthy cicatrices which one finds in this particular cartilage of the septum after cauterization by heat. Granted that the repair of cartilage is not alone dependent upon the continuity of the perichondrium and mucous membrane covering the wound, we must look to the integrity of the cartilaginous cell elements themselves for a satisfactory process of repair. Heat, we know, is disastrous to this condition, and it is undoubtedly the changes effected in the cells themselves by that agent which accounts for the necrosis and consequent perforation so often found in the septum at longer or shorter intervals after the use of the thermo-cautery.

"It would seem almost too trite a theme to call attention to the numerous cases of synechiæ in the nostrils; the result of cauterizing both the septum and the turbinates at the same time; but I have seen a patient to-day in my office who has just returned from Europe with an almost total occlusion of the left nostril, the result of repeated applications of the electro-cautery extending over a period of almost a year, at the hands of a foreign specialist of repute. In case the tubinates must be touched with the cautery the septum should be protected by tinfoil to avoid such accidents."—Med. Rev. of Reviews.

At the last meeting of the Illinois State Board of Health, the annual election of officers of the Board resulted in the election of Dr. C. B. Johnson of Champaign as president; Dr. R. F. Bennett of Litchfield, treasurer; Dr. J. A. Egan of Springfield, secretary and executive officer.

ITEMS.

Hospital doctors are merely ward healers.

The German Congress of Surgery will be held at Berlin, April 5th to 8th.

The man who talks in his sleep has some excuse for the fool things he says.

Never ignore the silent man; he is often the only one in the crowd worth listening to.

Cornet states that two-thirds of the members of the various sisterhoods who work among the sick eventually die from tuberculosis.

Already the various medical colleges are beginning to announce the graduating exercises. St. Joseph, Dartmouth and others have been held.

Jefferson, the actor, is a firm believer that a man must be sick once in ten years. His own experience goes to bear out this idea. Since 1869 he has been ill every tenth year.

Dr. George H. Stone, well known as a yellow-fever expert of Savannah, Ga., died February 19th, at his home in Savannah. The cause of death is reported to have been pericarditis.

The students of the class of '99 of the Medico-Chirurgical College, Philadelphia, recently presented to Dr. John V. Shoemaker a handsome sword as a mark of the esteem in which they held him.

Dr. Francis L. Haynes, of Los Angeles, one of the most prominent and promising men of that city, late Professor of Gynecology in the Medical College of University of California, died recently, aged 48.

The "Medical Dial" is a new medical periodical recently established at Minneapolis, the first number of which appeared in December. It is edited by Dr. J. W. Macdonald, and his associate is Dr. C. K. Bartlett.

Nasal obstruction is said to bear an unfavorable relation to heart disturbances. In treating these cases always examine the nose and inquire regarding nocturnal symptoms of congestion of the posterior part of the inferior turbinated.

It is said that a London medical society has reserved a number of meetings in each year which will be devoted to a recital of unfavorable cases and to a confession of errors in diagnosis and treatment fallen into by members of the society.—Recorder.

Invalids will appreciate a new bed designed for their comfort, the head end being hinged to the side rails and fitted with a lifting device, which raises the patient at any desired angle, at the same time placing an adjustable table in position for use.

What is urgently needed in miiltary matters is instruction in sanitation. Officers as well as physicians should be thoroughly taught how to keep soldiers well and not merely how to cure them when sick. An invalid soldier is an incumbrance in the army.

According to the Chicago Health Department officials, for two years past scarlet fever has been constantly epidemic in that city. Until the present season the mortality has been rather light, but of late the death rate is above the average for the disease.

Both branches of the Oklahoma legislature recently passed a bill, prohibiting the practice of Christian Science in the territory, but the bill was promptly vetoed by the governor on the ground that it was an interference with the personal rights of individuals.

Dr. F. Kreissl has been elected to a professorship of Genito-urinary Surgery in the College of Physicians and Surgeons (Medical Department of the University of Illinois). In this addition the faculty has certainly gained a factor of no little strength and ability in this line.

The violent efforts of some presumably prominent medical journals in their attempts to put a smooth oil finish on the "whitewashing" report of the "beef inquiry board" would be more amusing if it were

less reprehensible. But the idea of medical journals trying to secure either a moiety of favor or political "stand-in" by such subversion of their knowledge of facts makes one hesitate in holding very optimistic ideas regarding the millennium of medical journalism.

Dr. George H. Simmons, the new editor of the Journal of the American Medical, has assumed control of the office of publication, as well as the editorial chair. Dr. Simmons receives the hearty welcome, and we believe the earnest and cordial support, of the entire profession of this city.

It is reported from Vienna that Dr. Schenck, who recently promulgated a theory about the prenatal determination of sex in human beings, is to be disciplined by the senate of the Vienna university for securing so much newspaper notoriety as he did in connection with his theory.

Already those intending to exhibt at the Mississippi Valley meeting are beginning to inquire as to space. The secretary is also busy with the program, and every indication is that it will be the geratest meeting in the history of the association. The Clinic editor will have charge of the space.

Dr. Philo L. Holland, one of the most popular young physicians of Chicago, was taken ill with pneumonia recently, and notwithstanding everything possible was done for him, he died March 2d. Dr. Holland was a graduate of Northwestern Medical College, and an ex-interne of St. Luke's.

Dr. H. B. Young, well known to many of our readers as the genial and talented oculist and aurist of Burlington, is president of the Iowa State Society this year. He and Secretary Cochenower announce the completion of an interesting program for their next meeting, which will be held at Cedar Rapids on May 17th to 19th.

Smallpox is reported in California, Washington, D. C., Peabody, Kas., Carrol, Mo., St. Louis, Columbus, Cincinnati, Memphis, Jackson, Tenn., Laredo, Tex., Norfolk, Va., Portsmouth, Va., Monmouth, Rock Island and various other points nearer Chicago. It is not believed that it has as yet gained any foothold in the city. The constant and vigilant efforts of Health Commissioner Reynolds to vaccinate everyone who has not been recently vaccinated is most commendable, and should be encouraged by every practitioner. The glycerinated lymph is practically an assurance against the dangers attending other methods.

With the revival of prosperity there seems to have been also a revival of medical journalism. Many of those already quite well established show marked improvement in many ways, and then also there is that other evidence in the establishment of about twenty new ventures, each one, of course, feeling called upon to fill some "long-felt vacancy."

Some diligent statistician has calculated that when we are at rest we consume 500 cubic inches of air a minute. If we walk at the rate of one mile an hour we use 800; two miles, 1,000; three miles, 1,600; four miles, 2,300. If we start out and run six miles an hour we consume 3,000 cubic inches during every minute of the time.

Mr. C. B. Kirkland, who for several years past has been the advertising manager for Parke, Davis & Co., and who from his gentlemanly and always honorable bearing in that capacity gained many friends among the fraternity of medical publishers, has severed his connection with that company and accepted a similar position with the J. C. Ayer Co. of Lowell.

Several exchanges inform us that Harvard is to have a new professorship of hygiene. It is said that the endowment will afford for this chair ultimately a larger salary than is now paid to any professor in the college. The donor requires that the professor shall be both a teacher and a practitioner of medicine; his services are to be at all times at the disposal of the students.

The death is announced of Mr. Henry Jones, M. R. C. S., of London, better known as "Cavendish." He was more renowned as an authority on whist than as a physician or surgeon. Another more prominent one of the London faculty in the person of Mr. Thomas Cooke, F. R. C. S., has recently passed beyond. He will be remembered by very numerous Americans who have taken his course in anatomy.

The meeting of the Illinois State Medical Society at Cairo promises to be a most interesting one, to judge from the preliminary program recently issued. We had hoped to publish this program this issue, but are compelled to delay it until the April issue. The attendance of Chicago physicians will be, as usual, large. The Clinic has made arrangements with the Illinois Central road which will insure the Chicago contingent convenient and comfortable transportation to Cairo, at the usual rate, as announced in the preliminary program. Further particulars will be given next month.

A surgical writer calls attention to the liability of errors by relying too implicitly upon the skiagraph. Commenting upon this, the "Philadelphia Medical Journal," remarks that the pathologist who knows nothing of the clinical side of medicine is probably as dangerous to the patient as the practicing physician who knows nothing of pathological histology. A diagnosis founded on the microscope alone is just as likely to be erroneous as one founded on clinical examinations without the aid of a microscope, which is equally true in relation to medical examination for life insurance.

The London papers state that Mr. Stanley Kent, of St. Thomas' Hospital, who has been working at vaccinia since 1893, has succeeded in discovering the specific organism upon which it depends. He has further prepared pure cultures of the germs, and has used them for vaccination. The discovery, it is contended, while being of high scientific interest, is of more importance from a practical point of view, as the possibility of using pure culture for vaccination disposes of the chief argument of the antivaccinator, viz., that disease may be communicated to the children vaccinated by the use of impure lymph.

The Allegheny County Medical Society at its recently held annual meeting and reception entertained Dr. J. T. Whitaker of Cincinnati, as the guest of honor. At the same time they gave Dr. Daly a rousing vote of indorsement on the stand he had taken relative to the "beef question" before the inquiry board. Those who are fortunate enough to have a personal acquaintance with the noted surgeon from Pittsburg will not be at all surprised at the very positive and clear-cut character of his testimony.

Wm. R. Warner & Co.

Dear Sirs:—I write to congratulate you on your very remarkable facilities for business. The goods which I ordered from your Mr. Hillegass Saturday, 8:30 a. m., were delivered at 8:30 p. m. same day, with bill.

I doubt if this could be duplicated by any other firm in the country. With regrets for your misfortune and best wishes for the future, I remain,

Yours truly,

J. S. READING.

Washington, D. C., March 3, 1899.

S. G. West, M. D., Secretary Chicago Clinical School.

Dear Sir:—I have built up a large and paying general practice with special attention to diseases of the throat, nose and ear, and now, after thirty years of hard work here, I want to sell out and go where my wife's health will be better (she has rheumatism), and I can lead an easier life. If you know of a rising young man among your graduates or friends who is looking for a good location in which to settle, please let him know that I will get him well established in my practice in this lovely capital of our nation for the small sum of $2,500. I will be very much obliged to you.

Yours truly,

OTTO M. MUNCASTER.

802 19th street N. W.

MODERN THERAPY.

IODO-PEPTONOIDS.

A new combination of iodine with peptones. It is a definite chemical combination made up in an agreeable menstruum. It is absolutely non-irritating to the stomach. It will not cause the irequently seen iodine eruption, nausea, vomiting and other disagreable symptoms. Its use is indicated in all diseases in which iodine or its salts are of therapeutic value, especially in syphilis, phthisis and cerebro-spinal meningitis and such.

VIN MARIANI IN EXHAUSTION.

We have had occasion in numerous instances to administer "Vin Mariani" to business and professional men who complained of being gradually run down. The work of the office, the cares and worry entailed by business and the physical flaccidity brought on by overwork, all seemed to give way completely in a marvelously short space of time, despite the fact that the subjects continued uninterruptedly at their usual occupations. The notable fact to be observed is that in each instance the effect was permanent. But it must not be forgotten that, in order to make this result a lasting one, it is necessary to keep the patient upon a prolonged course in the use of "Vin Mariani." There is no doubt whatever that this preparation has proven itself a boon to mankind.—The St. Louis Medical and Surgical Journal, March, 1899.

A VERY GRAVE ERROR.

The experience of many of the best men of the profession, not only of the United States but abroad, has established the clinical value of antikamnia. Among those who have paid high tributes to its value and who occupy positions of great eminence may be mentioned Dr. J. Acheson Wilkin and Dr. R. J. Blackham, practitioners of London. They have found it of value in the neuralgias and nervous headaches, resulting from overwork and prolonged mental strain, paroxysmal attacks of sciatica, brow-ague, painful menstruation, la grippe and allied conditions. Indeed, the practitioner who has such cases as the latter come under his observation, who attempts their relief by opiates and stronger drugs when so efficient an agent can be used which is much less harmful, commits a grave error. Experience goes to prove that ten-grain doses of antikamnia in an ounce of sherry wine, taken every two to four hours, will carry the patient through these painful periods with great satisfaction.—Medical Reprints, London, Eng.

MALTZYME.

C. F. Tucker, M. D., of Syracuse, N. Y., says: "I have had excellent results from the use of Maltzyme. I do not prescribe any other malt preparations, or any cod liver oil combination other than that with Maltzyme.

"Since my attention was first called to Maltzyme, i. e., in April of last year, I have prescribed the four preparations of it constantly, and with uniformly satisfactory results.

"One patient, who claimed she could not take cod liver oil preparations, took Maltzyme with cod liver oil with decided benefit during the entire summer, even during the hottest weather, very much to my surprise."

UPBRAIDING THE DOCTOR.

Dr. Samuel Wolf, physician to the Philadelphia Hospital, and neurologist to the Samaritan Hospital of Philadelphia, presents, among others, a case which is of special value at this time. He says: "The entire experience of the writer with antikamnia is not confined to the series of cases on which this paper is based, although its previous use had been limited to a few prescriptions, and those in cases where it was given after the usual routine had been exhausted. It is, however, to a striking result in one of these instances that the incentive to investigate more fully is to be largely attributed. A man of forty-two, in the course of an attack of la grippe, was enduring an extreme torture from the pain of a trigeminal neuralgia. The second ten-grain dose of antikamnia gave such complete and permanent relief that my patient, a druggist of large experience, upbraidingly asked me, "Why didn't you prescribe this remedy before?"

BETTER STILL.

The influenza has been quite prevalent in a number of cities during the past month. In Richmond there have been many cases, though no deaths distinctly attributed to it. It is affecting mostly those who have had the disease almost annually during the past few years. Although the attacks of this year are relatively mild, they are severe enough to keep business men away from their places of business. Phenacetin, or, better still, antikamnia, with salol or quinia, and a little powdered digitalis added, has proved a satisfactory plan of treatment, presupposing, of course, that the bowels are kept open, the secretions of internal organs are attended to, and that the patient is kept indoors, especially at night or in bad weather.—The Virginia Medical Semi-Monthly.

SANMETTO IN ENURESIS DIURNA ET NOCTURNA.

Some years ago my attention was called to Sanmetto as a remedy for troubles of the genito-urinary organs, particularly in men past middle life, and I have had some very gratifying successes with its use. Recently I was called upon to prescribe for two boys, eight and ten years of age respectively. Everything had been tried, including whipping, to break up the "habit" of wetting the bed at night, and one of them also his clothing in the daytime. It occurred to me that Sanmetto would be worth trying, and, to the delight of everyone concerned, it has been perfectly successful, and now for the past six months and twelve months, respectively, these boys have been entirely cured of this unfortunate "habit." Undoubtedly the trouble was due to irritability of the prostate and mucous membrane of the bladder; hence the prompt and permanent relief afforded by Sanmetto. I have written these few lines hastily, calling the attention of the profession to these cases, with the hope that others will try the same remedy for the same "habit."

JAMES A. STEWART, M. D.
Baltimore, Md.

RHEUMATISM.

Dr. White of Chicago, in a recent article on rheumatism, has shown that the profession stands largely in the dark as to the nature and true cause of the affection.

In many cases which were capable of being diagnosed as rheumatism, he found clinical histories which were wholly incapable of scientific grouping. He regards the affection, as it is commonly seen, as due in the largest number of instances to an excess of uric acid in the blood, or to syphilis, and in some cases all the symptoms seemed to owe their existence to the strumous diatheses.

In the treatment of the disease the particular causes are, of course, zealously sought and treated and relief from pain guaranteed. The best constitutional remedy Dr. White has found to be Henry's Tri-Iodides, which is justly considered, not only by him but by other observers also, as the efficient alterative.

Wm. E. Quine.

THE CHICAGO CLINIC

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Lectures on the Practice of Medicine.

By WM. E. QUINE, M. D.

Professor of the Practice of Medicine and Clinical Medicine, College of Physicians and Surgeons of Chicago, and Dean of the Faculty.

[This portion of the lecture, somewhat modified, appeared in the Clinical Review, June, 1898.]

The treatment of disease is the ultimate object of all previous study, and, after prevention, it is the most important. The scope and limitations of medical therapeutics should be fairly understood, to begin with, for the first step in the solution of any problem is a clear understanding of its terms. It is well to keep in mind the meaning of the expression "to cure." Etymologically, it signifies "to take care of;" and it is only derivatively that it is used to indicate to restore to a normal state. In the early ages of the medical art the function of the physician was regarded as that of "taking care of disease," or of the person affected with disease. This is the only warrantable sense in which the term "cure" can now be employed. The distinction is well exemplified in the old Latin maxim, "The physician cures, but Nature heals." Medicine is but the servant of Nature. It may stimulate her to more energetic effort; it may restrain too violent action; it may guide aberrant action; but its power is in all cases limited to the modification or support of the natural processes, and it is the natural processes themselves that effect restoration of health. It can seldom be said with truth that such restoration is compelled by force of medicinal agency. All rational efforts of treatment must be directed (a) to the removal of the cause; (b) to increasing resisting power; (c) to dealing with the morbid anatomy; or (d) to modifying morbid physiology.

In every instance the first efforts of the prescriber are to be directed, when practicable, to the removal of the cause. This may be accomplished either by the use of specific medicines that have a direct destructive effect upon the particular morbific agency in operation, or a chemical effect in neutralizing or destroying it, or an evacuant effect in casting it out of the body. But no matter what the mode of action, the demand is imperative to remove, neutralize or counteract the cause of the morbid processes whenever this can be done. Perhaps the best and most familiar example of this mode of therapeutic action is to be found in the operation of antitoxines, and in that of quinine in the destruction of the specific cause of malarial disorders.

Next to the removal of the cause, the efforts of the physician are to be directed to the increasing of the powers of resistance on the part of the patient. Management of the kind that goes by the name of "supporting treatment" comes into play frequently in every form of disease and injury, and such supporting treatment has, in all instances, the direct object of increasing the resisting power of the patient. Notwithstanding the efforts of the physician to remove the cause, and to increase resisting power, it too frequently happens that the life of the patient is imperiled by reason of the morbid anatomy which develops as a part of the disease. It is usually assumed that the morbid anatomy of a disease is its most important element. It is too commonly even regarded as "the disease" itself, and as being directly responsible for the death of the patient, when death does occur, and for the various symptoms which appeared during life. You are to regard the morbid anatomy of disease merely as one of its elements, and not in all cases as the most important one. True, it may kill, and often does; but it is not the cause of death in every fatal sickness.

You saw a case of pneumonia yesterday and the patient appeared to be, and in fact was, in imminent danger. You see the same patient to-day, and he appears to be, and is, on the threshold of convalescence. He is said to have passed the crisis of the disease. His symptoms are improved in

every particular; temperature has suddenly fallen; the frequency of respiration has abated; the pulse rate has become greatly lessened; the mental condition is strikingly improved, so that even an inexperienced person is able to see the remarkable change. The patient, who is now cheerful, comparatively comfortable and inclined to take food, was, twenty-four hours ago, on the verge of dissolution. What caused the change? Is there not as much morbid anatomy there to-day as was there yesterday? Will you say, then, that it is the morbid anatomy of pneumonia which is responsible for its alarming and urgent symptoms? Will you say that it is the morbid anatomy of this disease which ordinarily kills? Will you say that it is the morbid anatomy of typhoid fever, ordinarily, which kills? Or is it morbid physiology?

Morbid anatomy is not the only phase of disease that is deserving of serious consideration. It is often the dominant and all-controlling feature. It is often the feature, and the only feature, which demands imperative and instant attention. If a patient has gangrenous appendicitis you would not think of treating him by administering medicines which are good for shock, but you would address attention immediately to the morbid anatomy. If a patient has empyema, or an abscess of the liver, you would give attention at once to the morbid anatomy, and not temporize or trifle with the life by limiting effort to the use of medicines which are good for chills, fever and sweats. So it is obvious that in many of the exigencies of disease morbid anatomy is the dominant feature; but I hope to be able to make it equally plain that in many other morbid states it is not the anatomy which demands attention, but the morbid physiology.

The manifestations of morbid physiology go by the name of the "symptoms of disease," and therapeutic attention to morbid physiology is commonly characterized as "symptomatic treatment." Nearly all physicians whom I know are disposed to underrate the value of symptomatic treatment, and to put it in very unfavorable contrast with the treatment of morbid anatomy. The treatment of morbid anatomy is commonly regarded as *radical*, and preëminently scientific; if not, indeed, the only kind of treatment that is scientific.

Let us have a clear understanding of the meaning of the term "symptoms of disease." The usual conception is that these are external manifestations which reveal the existence somewhere in the interior of the body of the entity which is to be regarded as "the disease," and for which morbid anatomy stands as the exponent. The symptoms are not ordinarily regarded as being of any consequence excepting in so far as they indicate grades of severity of "the disease." This conception of the term is not sustained by an analytical examination of the problem. It is impossible to conceive of a symptom apart from some disease. It is impossible to conceive of any disease that is entirely without symptoms.

If these statements are correct, we shall have to regard symptoms as those elements of disease which we can perceive for ourselves, or which are revealed to us by the patient. Whether we are able to see an element of disease or not, or whether the patient is able to do so, in no way affects the importance of that element or the intimacy of its relations to the individual. It is no more and no less an integral part of the disease whether it be visible to us or hidden from us; in either case it is to be regarded as an inseparable part of the morbid process.

In view of these considerations, the symptomatic treatment of disease comes to acquire greater significance and interest. Can we deny that because an element of disease is cognized by the patient and revealed to us it is therefore of no consequence and deserving of no attention? Can we maintain that an element of disease which we discover for ourselves is, in consequence of that, entitled to no consideration? The convulsions of strychnia poisoning are symptoms, yet they kill. The paralyzant effect of a sedative poison is symptomatic and yet deadly. And so the various toxins of specific infection may paralyze the brain and cord, and nerves, and heart and blood corpuscles, and they may kill without leaving any morbid anatomy to account for the fatal issue.

Convulsions are to be regarded as a symptom, and yet they may kill. Coma is a symptom, and yet it may be the cause of death.

Syncope is a symptom; pain is a symptom; vomiting, purging and hiccough are symptoms; high temperature is a symp-

tom; and any of these symptoms may be the cause of death.

In how many instances is the morbid anatomy of typhoid fever the cause of the fatal termination, and in how many is the morbid physiology responsible for that result? Is it to be held, then, that morbid physiology is not equally deserving of attention with morbid anatomy? And can it be maintained with reason that the efforts of the physician to control the perceptible elements of disease are less scientific or less effective than those of the surgeon who digs into the body to find and to deal with morbid anatomy?

If the foregoing statements of fact, and the argument, are accepted as true, it must follow that the therapeutic art is not to be limited to any particular phase of morbid action; and also, that therapeutic effort applied to one phase is no more and no less scientific than that which is applied to any other phase of disease. The treatment which removes the cause or strengthens resistance is quite as scientific and radical as that which removes morbid products; and the treatment which has the effect of obviating death from convulsions, coma, circulatory asthenia, respiratory failure, exhausting morbid discharges, pain, high temperature and the other so-called "symptoms of disease" may be quite as effectual and scientific as either.

You are not to exalt morbid anatomy above morbid physiology, gentlemen. Give to each the consideration it deserves. The self-satisfied physician who speaks disparagingly of symptomatic treatment has much to learn, for he does not yet comprehend the extent of his own ignorance.

Now, you have learned the subdivisions of the practice of medicine and the order of their arrangement. Keep the outline in mind, for when we come to the study of individual diseases this outline will be followed. Here and there special considerations may necessitate slight deviations from the plan, but, with considerable uniformity, the description of a disease will begin with the presentation of its etiology and proceed, in regular order, to the elucidation of its symptomatology, course, complications, duration, terminations, morbid anatomy, pathology, diagnosis, prognosis, prevention and treatment.

Remember this outline. The knowledge of it will greatly facilitate the taking of notes and the arduous task of keeping in mind, in orderly arrangement and ready for instant use, an enormous number and variety of important facts.

Dysmenorrhea.

By Geo W. Newton, M. D.
Professor of Gynecology in the Chicago Clinical School.

The term dysmenorrhea means painful or difficult menstruation. Dysmenorrhea is not spoken of to-day as a disease but merely as a symptom of some pathological condition existing in the pelvis. However, women do suffer from painful menstruation in whom an examination will reveal nothing pathological.

The following list of terms which have been used to describe the different kinds or forms of dysmenorrhea will show to how large a number of causes it has been supposed to be due. We read of apoplectic, congestive, neuralgic or neurotic, idiopathic, membranous, obstructive, inflammatory, endometritic, ovarian, rheumatic, spasmodic, ovarian, sympathetic, plethoric, tubal and vaginal dysmenorrhea, etc.

These various terms have been used to give some idea as to the pathological condition existing in a given case. To-day dysmenorrhea is classified as neuralgic or neurotic, obstructive, congestive or inflammatory and membranous. As a rule it is not difficult to assign a given case of dysmenorrhea to one of the above-named classes, but oftentimes cases will present symptoms common to two or more of the above varieties. Dysmenorrhea means more than discomfort at the menstrual period; it means actual pain, and often it is so severe as to compel the patient to go to bed.

Pain accompanying the menstrual flow may be due to so large a variety of causes that considerable care and skill are necessary to make a proper diagnosis in each case. Overmodesty of parents not wishing a proper examination to be made, so that intelligent treatment might be carried out, has ruined the health of many girls by allowing them to go on suffering month after month until their nervous system is ruined; so, too, the inability of doctors to make a diagnosis, or want of care in doing so, has caused women to be badly mis-

treated for this particular symptom. As a natural sequence, the treatment being inappropriate, the results have been unsatisfactory and patients go from one doctor to another seeking relief or else take refuge in the many patent remedies that are on the market for this trouble.

Painful menstruation may be due to constitutional as well as local causes. Thomas says: "Dysmenorrhea is due to one or more of the three following factors: 1st, a depreciated condition of the constitution, beginning usually either in the nervous system or blood, which creates a tendency to neuralgia; 2d, an abnormal state of the uterus; or, 3d, a diseased state of the ovaries." I think he could have added a fourth, i. e., a diseased condition of the Fallopian tubes. In a general way we can say the pain is located in the uterus or in the region of one or both ovaries.

The neuralgic or neurotic form of dysmenorrhea includes more women, I believe, than either of the other classes; in fact, the neuralgic element enters more or less into each of the other varieties. This form occurs usually in single or sterile married women. Examination of the pelvic organs of such women may reveal nothing abnormal. The uterus and ovaries will be normally developed as far as any examination may show, and in a normal position. Sometimes the uterus may be poorly developed, and could we examine the ovaries by visual examination we might occasionally find them poorly developed, while our sense of touch fails to tell us of anything being wrong. The poor development of the sexual organs of girls has been ascribed to the eruptive diseases which occur during childhood. Another very prominent cause of their imperfect development is the mental strain that girls are subjected to as they are passing through the period of puberty. The unnatural life that young girls are compelled or choose to lead as they are passing through this important period takes the blood away from the organs that nature intended should have nourishment. The result is the brain develops at their expense and the woman has a well developed brain and a sensitive nervous system, but she is illy prepared for the duties of motherhood.

Outside of the pelvis we find causes which predispose women to neuralgic dysmenorrhea. Anemia, chlorosis, rheumatism, malaria, indolent habits and excessive nervous strain are recognized causes of this particular form of menstrual trouble. With the sexual organs well developed and normally situated, and with no constitutional cause apparent to account for it, what causes these women to suffer such excruciating pain at each menstrual period? It has been suggested that the pain was due to a hypersensitive condition of the endometrium, and this is no doubt true. Another reason is the congestion of the uterus which occurs that time produces tension or pressure upon the nerve filaments of the uterus. As soon as the flow is established the pain diminishes.

Massey, in his work on Conservative Gynecology and Electro Therapeutics, claims the pain is due to a spasm of the circular muscles at the internal os. Another author suggests that the pain may be due to a fissured condition of the endometrium at the internal os. Just why that membrane should become fissured is not to my mind clear.

The pains of neuralgic dysmenorrhea are not particularly characteristic. They may be sharp and spasmodic, expulsive, intermittent or continuous. They are usually intermittent. As a rule they begin a few hours before any flow appears and diminish very much or stop entirely when the flow becomes free. Nausea, vomiting, violent headache and numerous hysterical symptoms are apt to precede the establishment of the flow.

The next form of dysmenorrhea is the obstructive variety. The pain is supposed to be due to mechanical obstruction to the flow. The causes of obstructive dysmenorrhea are: Flexions of the uterus, congenital or acquired narrowing of the external os or the cervical canal, fibroid tumors in the uterine wall and small polypi within the uterus. Ever since flexion of the uterus has been recognized it has been considered a cause, if not the cause, of painful menstruation. Dr. Graily Hewitt, in his book on "Diseases of Women," published in 1883, says: "Dysmenorrhea is to be regarded as a symptom indicating, in almost every instance, an impediment to the escape of the menstrual fluid from the uterus." Further on he says: "The 'obstructive' theory applies widely and generally to most

cases, those not coming within it constituting the exceptions." His ideas have been accepted by the majority of doctors as being correct, although when he wrote his book there were men who disagreed with him, and now there are many physicians who believe that only when the uterus is very sharply bent does the flexion act as an obstruction to the flow. There are authors to-day who practically deny the obstructive theory of dysmenorrhea.

During the past five years I have examined over one thousand women. Out of that number there have been a fair percentage of women who have had flexions of the uterus, and if it is fair to form an opinion from the experience gained in treating this number of gynecological cases, then dysmenorrhea exists irregardless of the position of the womb. One is just as apt to examine a woman and find a flexion without dysmenorrhea as he is to examine her and find a flexion with dysmenorrhea. However, I do believe that acute flexions can and do produce painful menstruation, for I have straightened the organ of several such women with relief of that symptom. But there is no doubt in my mind but that this condition has been exaggerated as a cause of this trouble, and at the same time other reasons have been overlooked, greatly to the detriment of the patient.

Tumors may prevent the escape of the blood; so, too, may a very small external os. The symptoms women complain of, who have obstruction to the flow, may not be dissimilar to those suffering from the neuralgic form. The pains come on before the flow, are intermittent and expulsive in character and usually stop or become very much less when the flow is well established.

Congestive or inflammatory dysmenorrhea is present in women who have an active or passive congestion of the sexual organs. As a rule it occurs in women who have had some inflammatory disease of the uterus, tubes or ovaries. It may come on suddenly as a result of "catching cold" from exposure. Usually women who have this form of trouble will complain of pain one to five days before the flow begins, and the pain will persist as long as the flow lasts, although it gradually grows less from day to day.

There are, however, exceptions to this rule. A young woman, age 34, came to me not long ago who had a salpingitis and a parenchymatous ovaritis, yet her monthly sickness was perfectly painless, was normal in quantity, and it occurred every twenty-eight days. Her only complaint was a burning sensation over the seat of the enlarged ovary and this was not particularly aggravated at the monthly periods.

The last form of dysmenorrhea to be considered is called membranous dysmenorrhea. It is comparatively rare. During the past five years I have seen two cases. It might come under the head of the inflammatory variety, for it occurs in women who have had some previous inflammation of the uterus. The characteristic of this form of menstrual trouble consists in the expulsion by the uterus each month of the lining membrane of the uterus, either intact or in pieces. This is now conceded to be an exudation due to a chronic endometritis. It has been thought by some to be due to a chronic ovaritis, but this view has been given up.

Expulsive pains begin at the commencement of the flow and continue until the membrane is expelled from the uterus.

PROGNOSIS OF DYSMENORRHEA.

Many cases of dysmenorrhea can be cured. Most of them can be relieved. The last form is the most difficult to treat successfully. Naturally the prognosis will depend upon the cause and the physician's ability to remove it.

TREATMENT.

Not unlike other diseases or symptoms, successful treatment depends upon correct diagnosis. As the acumen of the diagnostician is tested in these cases, so is the skill of the physician as well as the gynecologist tried. To treat dysmenorrhea successfully one must be a good doctor as well as a good operator. This statement refers particularly to the neuralgic or neurotic form of this trouble. The girl or woman's whole life has to be considered; her habits, diet, dress, in fact her whole environment. One must know whether she is using up more nerve force each day than she is producing. These nervously bankrupt individuals are the ones who suffer most severely at the menstrual epochs. Unless we can, by changing their mode of life, cause

these sufferers to gain some more capital, our treatment, even if it results beneficially, will be only temporary. To such women small pains seem severe, and the longer these painful periods continue the more severe the symptoms become, and the harder they are to cure, for the more undermined her nervous system has become.

To cure dysmenorrhea, then, we must treat the woman constitutionally as well as locally. Our curative treatment must be given between the menstrual periods. The remedies used at the time of the flow are only palliative.

Treatment between the monthly periods should consist in knowing that the patient has the proper diet; that her bowels move regularly; that she works within her strength; that she sleeps sufficiently; that her mental diet is proper; that she takes sufficient exercise, and that she is not subjected to severe nervous strain.

In regard to diet it is not sufficient to tell patients to be careful of their diet. Such articles of food as you wish them to eat should be specified. If a patient is anemic or chlorotic she should have iron, if her alimentary tract is in normal condition. To give iron when the tongue is coated does more harm than good. Fresh air and well digested food are the best blood makers we have. If iron is indicated I give Blaud's pill or the tinct. ferri chloridi with either acid muriat. dil. or acid phosphor. Some of the newer preparations of iron may have virtues, but I prefer the forms mentioned above. To restore a broken down nervous system Phillips' syrup of wheat phosphates with liq. potass. arsenites are a great aid to rest.

To illustrate what improved nutrition and rest of an overworked nervous system will do, I will cite the following case: Miss B., age 21 years, occupation school teacher in one of the city schools, came to me in June, 1897. She was thoroughly tired out from the year's work. She slept poorly, appetite capricious, pulse rapid, somewhat anemic and menstruation so painful that it was necessary for her to remain at home for the first two days. I prescribed some nerve tonics, told her what to eat, gave her some remedies to use at the next monthly period, and advised her to go to the country during her long vacation, which was soon to follow. She took my advice, with the result that when she returned in the fall her menses were entirely painless. After a few months of teaching, however, the pains gradually returned until she was as bad as she had been the previous spring. At this time she came back to me and I treated her with inter-uterine electricity, which entirely cured her, and she has remained well. Electricity is the most efficient agent we have for curing neuralgic and many cases of so-called obstructive cases of dysmenorrhea. Occasionally cases are not benefited by it. Others are relieved for a time. In such it is necessary to use occasional applications to keep them comfortable, but in a very large majority of cases it is safe to promise your patients that they will receive benefit.

Marriage, if followed by pregnancy, as a rule cures. Certainly marriage should not be recommended if there is inflammation of the sexual organs present. Radical dilatation of the cervical canal extending beyond the internal os has been used many times with benefit. Four months ago I dilated the uterus of a sterile married woman who had dysmenorrhea. She was cured of the dysmenorrhea and has since become pregnant. Forcible and rapid dilatation has taken the place of the cutting operations of Sims and Simpson. Dr. E. C. Dudley of this city has devised an operation for cases of extreme antiflexion which has proved successful in his hands.

Dysmenorrhea existing in a woman who has a marked retroflexion should first be treated with electricity. If that is unsuccessful an Alexander operation can be performed or a ventrofixation. I do not use pessaries for such cases.

If there be an obstruction to the flow from a contraction of the cervical canal it should be dilated. Polypi or fibroid tumors stopping the flow should be removed.

Dysmenorrhea due to endometritis, salpingitis or ovaritis should receive such treatment as the pathological condition warrants. Cases of membranous dysmenorrhea should be dilated, curetted and afterward treated with a solution of chloride of zinc or carbolic acid and iodine.

Drugs which have been used to relieve the pain at the time of the flow are numerous. The ones which I have found of service are ext. Viburn. Prunifol. Fld., or a preparation which tastes better is Hayden's

Viburn. Comp. Either one should be given freely. Tinct. Pulsatilla, Tinct. Gelsemium and Tinct. Cannabis Indica are all useful, but often fail. Kryofine and Phenacetin have given me satisfaction in some cases. If the patients are rheumatic the salicylates do good. If the pains are very severe the patients should be put in bed, given hot drinks and have hot fomentations applied to the abdomen.

103 State St.

Perforating Wounds of the Eyeball.

By WILLIS O. NANCE, M. D.
Professor Ophthalmology, Chicago Clinical School; Assistant Surgeon, Illinois Charitable Eye and Ear Infirmary; Member American Medical Association, Illinois State Medical Society, etc., etc.

[A lecture delivered before the class in attendance at the Chicago Clinical School.]

Gentlemen: During the present course it has been my privilege to present to you several cases of injury of the eyeball wherein the deeper structures of the globe have been involved. To-day, through the courtesy of my friend, Dr. W. D. Hohman of Kewanee, Ill., who referred the patient to me, you have the opportunity of examining an additional case, which presents, I think, some features of more than passing interest.

The young man, who is sixteen years old, while engaged in exploding a percussion gun-cap by means of a hammer and anvil, four days ago, was unfortunate in receiving a flying missile in his left eye. The injury produced considerable pain at the time of accident, which a few hours afterward almost completely subsided, but on yesterday when the patient came under my care he complained again somewhat, and the eye was in much the same condition as you see it to-day.

You will note, first, an incised wound of the cornea, two millimeters in length, almost completely healed, just above the center and to the inner aspect; second, that the anterior chamber is almost entirely filled with pus, and that that part of the iris of which it is possible to obtain a view is of a muddy yellowish-green tint, in contrast to that of the fellow eye, which is of a light lustrous blue, and, third, you will observe by making gentle palpation with the finger-tips that the tension of the globe is considerably diminished. The two latter associated signs—the yellowish discoloration of the iris, and the lowered bulbar tension, when accompanied by severe pain, are always symptoms of grave intra-ocular disturbance.

We have then, you see, an infected penetrating wound of the cornea, at least, involving by continuity the aqueous, the iris and ciliary body, and, probably, the vitreous humor, painful and tender on pressure, the vision amounting to a mere perception of light. We have an exceedingly grave condition of affairs, and the question at once suggests itself as to the proper management of this case. Shall we make an effort to save the eye, or shall enucleation be performed? The chances of a restoration of vision are extremely slight, but is there a possibility of retaining the globe without endangering the fellow? Experience, which teaches that an artificial eye is oftentimes uncomfortably borne, and from a cosmetic standpoint is not infrequently no great improvement over some sightless human optics, leads us in every case to exercise discretion in considering this question. The solution of the problem depends entirely, I think, upon the whereabouts of the agent instrumental in bringing about the condition. If the flying missile of copper, after making the corneal wound, glanced off, as is quite often the case in injuries of this kind, leaving no part behind, we are certainly justifiable in attempting to save the eye; but if the globe contains the foreign body, and it cannot be readily removed, we must proceed, in duty bound, to excise the eye in order to prevent the probable occurrence of migratory (sympathetic) trouble.

You will all agree with me that the opaque condition of the anterior media precludes any possibility of success in our search with the condensing lens or ophthalmoscope; and it is to a more recently discovered process, which has done so much to aid in surgical diagnosis, that we turn. The skiagraph, which I now present, was taken at my request on yesterday by Mr. Fuchs of the Schiller Building Laboratory. It is, you observe, a lateral sectional exposure of the young man's head, showing quite clearly the anatomical relations by which the eyeball can be located, and I fancy it does not require a very great stretch of imagination on the

FIG. 1.

part of any of you to decide upon the presence of a foreign body therein. I will not venture, from this exposure, an exact location with reference to ocular tissues, as experience has demonstrated this to be a difficult matter, but that the globe somewhere posterior to the lens is the resting place of the body in question I have no doubt.

Now, with our diagnosis of the presence of an extraneous substance in the eye, we have one of two courses to pursue: Either to attempt its removal or to excise the globe. The nature of the offending body will render the electro-magnet useless, and you have already witnessed in this clinic the great difficulty in extracting a non-magnetizable particle lying behind the iris, working in the dark as we always are. Justly considering all phases of the present case, we have, I believe, but one choice of procedure, and that is to remove the eye, the operation for which will be performed at the close of this lecture.

Perforating wounds of the eyeball, gentlemen, must always be regarded as serious. The probability of septic infection, and the possibility of sympathetic inflammation, must always be taken into consideration in the prognosis and management of a given case. It is at times difficult to determine the extent of an injury. What may appear to be a wound merely of the cornea may later be found to have involved the ciliary body, the lens, and even the deeper structures. Use the ophthalmoscope and condensing lens, and determine at once the entire extent of the injury, and decide, if possible, whether the eye contains a foreign body or not. I would suggest that in all cases one or two minims of a 2 per cent solution of cocaine be dropped into the eye, and a careful and painstaking examination made by means of reflected light. The cocaine solution, in anesthetizing the parts, relieves the intense sensitiveness to light which the patient is certain to complain of, and enables the physician to more critically conduct his examination.

In this connection permit me to urge upon you the necessity of asepsis in eye surgery. It has been charged that many physicians, while extremely careful in routine surgical work, completely ignore the fundamental principles of asepsis in the examination and treatment of eye cases. The hands and instruments must be scrupulously clean. Boric acid, in a saturated solution, or corrosive sublimate solution, 1-5,000, should be freely used in irrigating the conjunctival cul de sac, and scrubbing the surrounding parts.

Skiagraph of Enucleated Eye.

An uninfected wound of the cornea will usually heal kindly in a few days, but it must not be forgotten that the resulting opacity will seriously interfere with vision.

if located centrally. Corneal injuries, accompanied by an escape of the aqueous, usually present a prolapsed iris at the lips of the wound. If these cases are seen within a few hours after the injury, an effort may be made to replace the iris by the instillation several times, at intervals of ten minutes, of a one-half per cent solution of eserin sulphate. Should this means of procedure fail, gentle traction of the protruding part may be made, and the iris snipped off. This operation must be performed in an aseptic, gentle and exceedingly careful manner, or more harm than benefit will result. Injuries presenting this complication, which are not seen within twelve hours, had best be let alone, so far as the reduction of the prolapsed iris is concerned.

A majority of corneal wounds are complicated by an involvement of the ciliary body. Nettleship, some years ago, styled the region around the corneo-scleral juncture to the extent of five millimeters, the "danger zone," from the fact that perforations within this space are quite certain to implicate the ciliary body, and are apt to be followed by cyclitis and eventually sympathetic inflammation. The prognosis in this class of cases must always be grave, and some ophthalmologists favor immediate enucleation in every case.

Where the vision is nil or greatly reduced, I would not hesitate a moment to remove the eye. Where vision remains fairly good and we are positive that no offending substance remains in the eye, and have reason to believe, from the nature of the object producing the injury, that septic inflammation will not intervene, it is a good rule to postpone operative procedure with a view of removing the globe. Two cases of extensive ciliary injury by glass are recalled where patients recovered with more than one-half normal vision.

Ciliary wounds presenting prolapse, where it is decided not to enucleate, are best treated by immediate abscission of the protruding tissue.

Foreign bodies penetrating the lens capsule are almost certain to bring about the production of a cataract, but the offending body, if it remains within the lenticular substance, does little harm. However, it not uncommonly migrates, sooner or later, into either the anterior or posterior chamber, and by its presence sets up an inflammatory condition that frequently causes considerable trouble. In all cases, then, it seems to me to be wise and conservative surgery to attempt its removal by extracting the lens as soon as is practicable.

Perforating wounds of the sclerotic are always dangerous. Should the object producing the injury be sterile, which is exceedingly improbable, there will result in a majority of cases a loss of the vitreous humor in a greater or less amount, with consequent impairment of vision. Of much greater importance is the liability of infection, and few cavities of the human organism present a better medium for the culture of bacteria than does the posterior chamber of the eye.

The eye may be lost in one of two ways: Either through active, purulent inflammation of all the tissues of the globe (panophthalmitis), or the slowly progressing iridocyclitis, the sequel of both being the same —phthisis bulbi. It must not be forgotten that the latter process, while more dilatory, is the more liable to give rise to sympathetic disturbance. Small wounds may be covered with conjunctiva, or sutures may be introduced through the sclerotic edges, a bandage applied, and the patient put to bed. In more extensive injuries, where there is considerable loss of vitreous, enucleation should be immediately performed.

Cross-section of Enucleated Eye.
(Mounted in glycerine-jelly.)

Now, a word as to the general management of emergency cases. I have already urged upon you the necessity of a thorough and careful examination of every case and have given you my views as to the proper procedure in meeting with some of the more common complications.

A solution of atropin sulphate should be used early, and continued in all cases where the cornea or iris is injured, or the latter is apt to become involved. The action of the mydriatic puts the eye at rest and prevents the formation of iritic adhesions of the lens. The boric acid or sublimate solutions should be used freely and frequently, as already stated. Most wounds improve better under the application of a bandage, which has a tendency to induce more rapid healing. A catarrhal or purulent discharge, however, is a contra-indication to its use. The application of cold compresses is indicated early, but after active inflammation has begun the hot will be found more beneficial. The patient should be seen every day, that any new complications arising may be intelligently met.

In conclusion, permit me to direct your attention to several points that I believe to be worthy of consideration:

1. In all cases of ocular injuries, carefully test the vision of both the wounded and sound eyes and record the same, with pen and ink, in your daybook, opposite the patient's name. These data may prove of value, from a medico-legal standpoint, at some future time.

2. In the examination and treatment of wounds of the eye, be as particular, so far as aseptic precautions are concerned, as if you were operating in the abdominal cavity.

3. Do not fail to impress your patient with the possibility and danger of sympathetic ophthalmitis in all infected perforating wounds, and should patient refuse to submit to removal of eye, when same is advised, withdraw from further attendance upon the case.

4. It is always well to have written consent from parent or guardian before enucleating the eye of a minor.

5. When search is to be made, under a general anesthetic, for a foreign body, known to be within the eyeball, obtain consent of patient for total excision, if attempt to extract offending substance proves unsuccessful.

34 E. Washington street.

Saturday Lessons in Neurology.

By HAROLD N. MOYER, M. D.
Professor of Nervous and Mental Diseases, Chicago Clinical School.

TREATMENT OF NEURASTHENIA

Neurasthenia is one of the most frequent diseases which come under the observation of physicians. It is one that taxes his patience and therapeutic resources to the utmost and to manage it successfully requires an accurate comprehension of the underlying conditions concerned in its production.

The latest and best accepted views of neurasthenia regard the disorder as essentially a fatigue neurosis. By this is understood undue fatigue upon exertion so far as the will powers and voluntary movements are concerned and an undue reaction of the sensory side of the nervous system. The symptoms presented by a neurasthenic are varying and of infinite variety, but it matters not how extraordinary or unusual they may be, the essential conception of undue fatigue must always be present to constitute a diagnosis of the disorder.

Naturally such a protein affection would give a widely varying classification; thus we have spinal, cerebral and sexual neurasthenia, and we could go on multiplying the types and add to the list visceral, ocular, aural; in fact, the predominant symptom presented by any case would furnish a new name to add to the already long list of those describing the varieties of this disorder. Such refined distinctions might be tolerated if they served a useful purpose in the management of these cases; but they only encumber the literature and burden the memory without corresponding advantage.

In discussing the treatment of neurasthenia the question of diagnosis is of the utmost importance. Every case should have a thorough examination of the nervous system to exclude as far as possible organic disease. We should always remember that neurasthenia may be associated with or precede the development of organic affections. Therefore, in diagnosis we should never be content with the identification of one or more symptoms of a neurasthenic character and regard that as sufficient, but the systematic and complete examination of the nervous system

for organic trouble should always be made. Having excluded organic affections, we should next decide the presence or absence of mental troubles and hysteria. Hypochrondria is sometimes mistaken for neurasthenia, as are hysteria and some of the psychoses. Here, again, there may be a complication of neurasthenia; thus it is possible for a hysteric to become neurasthenic or for a neurasthenic to show hysterical symptoms. Melancholia is not an infrequent complication of this disorder. The distinctions made in these conditions are of very great importance from the standpoint of treatment, especially that between hysteria and neurasthenia.

From the standpoint of treatment an important observation relates to the various vegetative functions. Neurasthenia is frequently associated with catarrhal gastritis and sluggishness of the bowels. Circulatory and kidney affections are by no means infrequent complications. Defects in elimination, in which we would include the whole group of so-called uricacidemias, are frequent complications of this condition. We must also not forget that some of these conditions may be primary and upon this substratum of disturbed nutrition the symptom grouping of neurasthenia may be erected. From the standpoint of treatment it is not sufficient to symptomatically recognize the disorder, as it is apparent that if dependent upon diseases of other organs than the nervous system, these must first be overcome before a cure can be hoped for.

Perhaps some will be surprised that we do not law stress upon the so-called reflex causes of this disease; in our experience they have played a very insignificant rôle. We have seen one or two cases in which the disorder has been apparently due to eye-strain. Of course the general ill health which comes from tubal or ovarian disease or uterine displacements may furnish a suitable soil for the development of the disease. The same would be true of prostatic enlargement, cystitis or similar troubles. As a general rule we believe that the role assigned so-called reflex causes is much too large.

A group of cases which can fairly be called neurasthenia include those who have had the disease since birth. A better term to apply to these would be neuropaths, and from the standpoint of treatment these cases are quite hopeless. The nervous systems of these patients never seem to have acquired any stability; they react to trivial causes and are incapable of sustained exertion, either mental or physical. Much can be done perhaps to mitigate the unfortunate condition of the neuropath, but the defect in the nervous system is so radical that a cure can never be looked for. Congenital neurasthenia is exceptionally met with; the most common form of congenital nerve weakness is hysteria and hypochondria. We have seen as typical cases of the fatigue neurosis existing throughout life as we have ever observed in the acquired forms, but it is to be remembered that they are comparatively rare. In the great majority of cases neurasthenia is an acquired condition which pursues a fairly definite clinical course. It has its beginning which may be initiated by some mental or physical shock and it may come on gradually. Even if the disease begins abruptly, usually a number of weeks or months elapse during which the disease is progressing. The irritability of the nervous system, the fatigue upon exertion, both mental and physical, gradually advances and with it there is a deepening of the subjective symptoms of distress and anxiety. In the majority of cases the disease reaches its height in from three to six months from the onset, when a gradual improvement begins which ultimately ends in recovery—at least the patients consider themselves well. It is doubtful if a perfect recovery ever takes place. There is some weakness or instability of the nervous system that was not present before the attack. It will be seen from the foregoing description that, in the majority of cases, neurasthenia is a self-limited affection. A large number of cases will recover without treatment, the disease having a natural tendency toward restoration. While this is true of the majority of cases, there remain quite a number in whom the disease becomes chronic, or in which only a partial restoration takes place.

These facts in mind, a fairly definite prognosis can be given in the individual case, if the disease is of comparatively abrupt onset and has existed but a few weeks or months, and is associated with removable disturbances of nutrition; the

prognosis is favorable. If, on the contrary, incurable organic affections are associated with the disorder, or it has been of several years' standing, the prognosis is unfavorable. As a general rule we have found those cases which begun abruptly and which were initiated by some mental or physical shock or have followed an acute illness are much more amenable to treatment than where these conditions had not existed. The same rule would apply to this as in other functional nervous troubles, cases that were decidedly neurotic prior to the onset of the trouble, or those in which there is marked hereditary tendency being less favorable.

The most essential single thing in the treatment of this disorder is to secure rest and this is one which frequently taxes the ingenuity of the physician. By rest is not meant the mere freedom from business, a trip to the country or a sea voyage, but also a lessening of the worry and stress to which the individual is subjected. Sometimes domestic and business considerations are such that but little can be done in this direction, but it should always be aimed at in the treatment of such a case. Too often a change of scene and travel is recommended and the results obtained are most disappointing. Many of these cases are better off at home, particularly if they are under competent medical direction and surrounded by home comforts. Later when the more acute symptoms of the disorder have subsided, a change of scene is often of benefit. In severe cases the strict rest-cure of Weir-Mitchell is to be insisted upon. In the milder degrees of the affection this is not necessary, and what has been called a "modified rest-cure" may be employed. The hours of business may be lessened and the time which is spent in bed may be increased. Thus patients may be ordered to bed soon after their evening meal and not allowed to rise until mid-day, in this way spending eighteen hours out of the twenty-four in bed.

The matter of exercise should not be neglected; if a patient is too feeble to take any, massage should always be used. If, however, the case is not severe enough to require absolute rest in bed, it is well to have the patient take a walk in the open air at least once or twice a day. This perferably should be a short, rapid walk, within the strength of the patient, rather than less vigorous exercise continuing for a longer time.

The diet of these patients always needs careful regulating. The red meats should be largely excluded, but milk, fish, oysters, fowl and eggs should be permitted. As a rule the stomach is deficient in activity and care must be taken not to burden the digestive system. At least four meals a day should be taken, the last one, of course, as late as ten or eleven o'clock at night should be very light.

Sleep should be secured by the use of hypnotics if it cannot be obtained in any other way; they are, however, to be avoided if possible. Chloralamid and sulphonal may be used, but in our own practice we have found that chloral was more efficient and quite as free from disagreeable after-effects. A large single dose of the bromide of sodium may be given at night with good effect and it often acts better than many hypnotics. Not less than thirty or forty grains should be given. Of course, like other drugs of this character, it should be regarded only as a temporary measure, as it inevitably tends toward disturbance of digestion and impairment of the nutrition of the nervous centers if continued for a considerable time.

The best single remedy is strychnia. It must be given with a free hand—1-10 or 1-12 of a grain of the muriate three times a day for four or five days; the drug is then to be discontinued for three days, when it may be resumed in full doses for three days. The strychnia can be repeated in this way as often as benefit seems to be obtained. A few patients do not seem to tolerate strychnia well and are not benefited by it.

With these remedies, cold water is to be systematically employed. The best means of application is by the sheet rub of Winternitz. In this method, two sheets are required, preferably of linen. One is dipped in water of a temperature of about 45 or 50 degrees and the patient, who has removed his clothing, steps out of bed and the sheet, which has been drawn through the hand to remove excess of water, is wrapped around the body and a vigorous rubbing is administered through the wet sheet. This should not last over fifteen or twenty seconds, when the dry sheet is substituted and the patient is rubbed dry

through that sheet. The whole procedure should not occupy over a minute and a half, if properly done it is very stimulating for the nervous system and equalizes the circulation. If properly performed, it is not followed by any unpleasant reaction and the patient invariably feels warm and comfortable. If, however, the application is not made immediately upon getting out of bed, while the surface of the body is still warm, or too much time is taken, the patient may fail to react and positive harm is done.

Elimination is an important factor. The bowels should be kept open, preferably with salines, or, what is perhaps equally good, castor oil. The latter is easiest taken in the form of ale and may be given either early or late in the day. My own practice is to employ salines for a week and then to use castor oil for a week. In these cases, simple laxatives are not efficient.

Almost invariably these patients take very little water and it is necessary to direct them to take water at regular intervals between meals and to state the quantity.

To recapitulate, we would say that the treatment of neurasthenia resolves itself into (1) rest; (2) sleep; (3) diet; (4) elimination; (5) use of cold water externally; (6) strychnia.

103 State Street.

The Basini Operation for the Radical Cure of Inguinal Hernia without Buried Sutures.

By EDWARD H. LEE, Chicago.
Professor Surgery Chicago Clinical School; Attending Surgeon Cook County Hospital, West Side Hospital and Alexian Brothers Hospital.

All surgeons meet with more or less suppuration in their operations for hernia. This can be accounted for in different ways. First, the region of the inguinal canal and its surroundings are difficult to disinfect; this applies especially to the penis and the scrotal sac; it is, however, entirely unnecessary to expose these parts during the operation; both the penis and scrotum are covered by towels and should not come into view during the entire operation. A further source of infection is unnecessary manipulation and mutilation of tissues; an experienced operator should expose the pillars and divide the sac from the cord, the only difficult step in the operation, without doing much injury to the tissues. A third, and, I believe, the most important feature in the causation of infection, is the suture material which is used in approximating the pillars. In over 200 herniotomies which I have performed during the past six years after the Basini method, using silk, silver wire, silkworm gut, kangaroo tendon and various kinds of catgut, I have changed from one material to another on account of occasional suppurations which have followed the operation in spite of the most extensive and elaborate preparation of the patient, instruments, suture material and hands. In some cases there was no evidence of infection until the twelfth or fourteenth day: as catgut had been used in these cases of "late infection" I believed it to be due solely to the catgut; the outer layers of the heavy material, which of necessity must be used, became absorbed and the inner layers or central portion of the suture, which is not always sterile, caused a subacute infection.

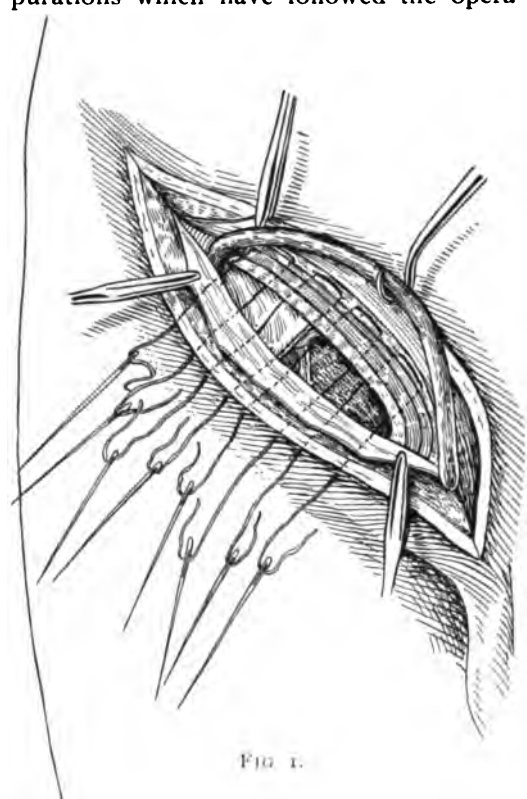

FIG. 1.

Were it not for the buried suture ma-

terial an infection would not be difficult to deal with and should not be followed by unfavorable results; by early drainage and

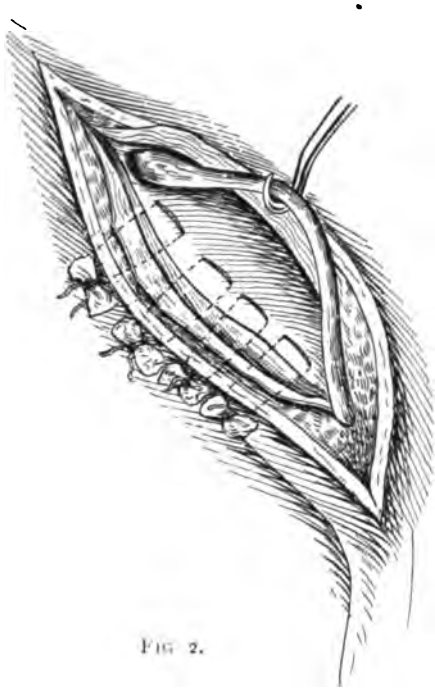

FIG. 2.

proper dressings an infection should be arrested and limited to a small area. Where buried sutures are used we have greater difficulties to contend with. If the material is not absorbable it will in the greater number of cases give rise to a prolonged suppuration which will not subside until the ligatures have worked their way out through a suppurating sinus. It is often necessary to cut down on or curette the sinuses in order to remove the foreign bodies.

Where absorbable material is used we have the same difficulties to contend with, not, however, to the same extent, as the suture will break down and escape through a sinus or eventually become absorbed. This process sometimes is of very long duration.

In the last sixteen cases that I have operated on I have inserted sutures which could be removed at any time desired. The plan of using sutures with the idea of subsequently removing them has been somewhat modified by me in my operations according to the Basini method. It is unnecessary here to discuss the merits of the well-known Basini operation, so I will content myself by simply describing this suture modification already alluded to. The accompanying illustrations show the method better than it can be described. Using silkworm gut, I first approximate the border of the rectus, the edges of the internal oblique, the transversalis muscles and the transversalis fascia to the deepest portion of Poupart's ligament by means of a buried row of U sutures. These sutures are inserted in the following manner (Fig. 1): A heavy silkworm gut is threaded on both ends with curved hernia needles. Commencing at the lower angle, both of these needles are inserted through the inner pillar at about one-half inch distance from each other. The needles then penetrate the deepest portion of Poupart's ligament just opposite the points of insertion in the inner pillar and

FIG. 3.

are brought out through the skin in the immediate vicinity, where they are tied over a small pad of gauze. As many of

these sutures are inserted as is necessary to close the entire canal (Fig. 2). The external oblique is now closed by a continuous or running suture (Fig. 3), which enters through the skin at the lower angle of the incision, then includes the divided layers of the external oblique and finds an exit through the skin at the upper angle of the incision; both ends of this suture are held tight by knots or small pads of gauze, to which it is tied. The skin incision is now closed by a number of interrupted silkworm gut sutures.

The external oblique may be closed by a figure-of-eight suture, which includes both the fascia of the external oblique and the skin (Fig. 4). I prefer the continuous suture, as it is not as apt to be followed by an infection from the skin, the deep sutures communicating with the skin only by two punctures, whereas in the figure-of-eight every suture communicates with the external oblique.

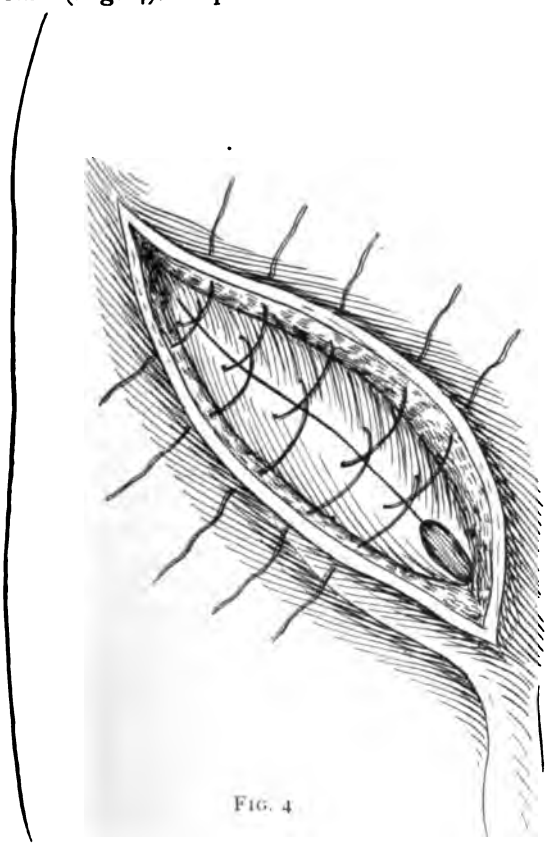

FIG. 4

The sutures are removed without any difficulty on the twelfth day. In case of suppuration they should remain about four weeks. I do not hesitate to recommend this method, which has given me perfect satisfaction in the cases in which I have used it. I have also used it in one case of inguinal hernia in the female, and in a case in which I performed the Alexander operation.

The Treatment of Adenoids and Turbinated Hypertrophies.

By ARTHUR E. PRINCE, M. D., Springfield, Ill.

In response to an invitation from the secretary of the Tri-State Medical Society, I have chosen as a title for a short paper "The Treatment of Adenoids and Turbinated Hypertrophy." This subject is suggested by the variety of opinions existing among those who have a right to be regarded as competent, and who make a specialty of treating diseases of the nose and throat. In my opinion, there should be no question regarding the wisdom of mechanically removing all obstructions to nasal breathing. Those who have read articles which have appeared in the various journals during the past two years, most of which had been previously read before medical societies, will have noticed that some advocate radical operation with appropriate instruments; others recommend breaking up the adenoid with the finger, and others still the none-surgical treatment of hypertrophies of the mucous membrane of the turbinated bodies. Also, concerning the use of the snare, chemical caustics and galvanic cautery, there is a wide difference of opinion. My experience in the removal of nasal obstructions has led me to the conviction that there is no middle ground; that an operation, if indicated at all, should be done in the most radical manner in order to obtain the largest proportion of satisfactory results.

In presenting this paper, I will say that it is not my purpose to treat the subject in an exhaustive manner, but in the few minutes allotted to me to emphasize three points: First, the importance of treatment; second, the method of treatment, and, third, the after-treatment.

In speaking of the importance of removing obstructions to nasal breathing, I feel like premising with an apology, for there

ought to be a complete unanimity among physicians on this point.

School teachers, woman's clubs, child study organizations and the public generally have discussed the influence of obstructed breathing upon the mind, the physical conformation of the face, hearing, voice and danger to life from acute diseases.

In a very interesting paper read before the child's study department of the Illinois State Teacher's Association, at its meeting in 1897, Dr. Bayard Holmes discussed the topic of "starvation." He spoke of albuminoid starvation, fat starvation, calcium starvation, iron starvation and thyroid gland starvation, and finished his paper by a discussion of oxygen starvation.

The matter of the paper was not new, but the novel method of putting it made an impression upon all those who heard it.

The child who has more or less obstruction to nasal respiration, due to deformities of the septum, turbinated bodies, enlargement of the adenoid tissues or faucial tonsils, suffers from oxygen starvation just as truly as the child who is insufficiently fed. In addition to the element of starvation is that of the accumulation of carbonic dioxide, which interferes with metabollism and nutrition.

The need of attention to the question of nasal obstruction should require no further argument than the statement of the fact that we have a conjury of symptoms, which, taken together, constitute a type known as the "mouth breathing" type. The elements of this type are those of the face, voice, ear, blood and expression. The habit of mouth breathing, necessitated by the nasal obstruction, forces the child, to a greater or less degree, to breathe with the mouth open, especially at night. This carried on during a period of years results in a malformation of the palate, which is seen in the conformation of the face. The front teeth become more prominent, the palatine arch encroaches on the nasal cavities, resulting in septum deflections; both sides of the maxillary bones are forced toward the median line, and the teeth are crowded forward. This malformation, when established, can be seen throughout the entire period of a person's life. As a result of this habit, the mucous membrane of the nose becomes congested. The eustachian tubes sympathize, and the child suffers from recurrent deafness. Stenosis of the nasal passages interferes with the resonance of the voice, and a peculiar tone results, which may usually be recognized by the surgeon. In the great majority of cases the patient is pale, due to enemia, as the result of the toxic influence of the carbonic dioxide.

The fact is becoming more and more generally recognized that children suffering from nasal obstruction are more likely to succumb to diseases involving the nasopharynx. This is not only due to the nasal obstruction, which is increased during the inflammatory period, but to the vitiated blood, the germicidal quality of which is impaired by the persistent presence of an insufficient quantity of oxygen.

THE METHOD OF TREATMENT.

Under the head of method I will consider, first, adenoids, and then turbinated hypertrophies.

In the first place, I will say that I am not in sympathy with those who advocate anything short of a radical operation. I have heard surgeons recommend the introduction of the finger in the vault of the pharynx, endeavoring to break up the adenoid tissue, trusting to its spontaneous atrophy. The advantage of this operation is that it is simple. In condemnation of this procedure, I want to cite a case which will illustrate my views regarding the futility of anything short of the complete removal of the growth.

Mr. P., a farmer living near Athens, Ill., consulted me in 18— regarding the respiration of his child. He was enemic, had suffered from occasional deafness, had a distinctly adenoid tone, and kept his parents anxious, especially at night, on account of his obstructed respiration. After closing the mouth in the act of swallowing, carbonic dioxide poison would increase until it forced him to open his mouth to breathe. This would be repeated over and over again, during the night. I assured Mr. P. that the whole difficulty was due to the presence of an adenoid in the vault of the pharynx, and that its removal would be followed by prompt recovery. An anesthetic was administered; the adenoid was thoroughly removed by appropriate forceps,

and the child recovered completely within a few days.

Three years later Mr. P. consulted me again regarding a younger child, who suffered from the same symptoms. In the case of this child he was somewhat discouraged, from the fact that two operations had already been performed without benefit. The child was anesthetized, and the vault of the pharynx was found to be wholly free from adenoid growth, but carrying the tip of the finger well forward, I could feel a remnant of the adenoid which had escaped detection, and which blocked the space between the vomar and posterior end of the inferior turbinated bone, and which could not have been removed by the finger or a Gotstein's curette. By the use of a strongly curved forceps I removed this remnant of adenoid tissue. In half an hour the child was breathing perfectly.

I regard this case as very instructive, for it forces the conclusion that if a failure may occur in the hands of a surgeon who is in the habit of performing these operations, and who has a patient under the influence of chloroform, how much more is a failure likely to result from an attempt on the part of the surgeon to operate on a patient in an upright position without the aid of an anesthetic, by means of the finger alone.

This case in itself is a cogent argument against the practice of any inefficient operation. Had it not been that the first child in the case of Mr. P. had been successfully treated, the father would have been discouraged after the second unsuccessful effort, and the child would have grown up or died under the permanent influence of carbonic dioxide poison. Not only that, but Mr. P.'s influence throughout his community would have been against surgical interference in the future, and he would never have ceased to tell the story of this failure.

I have repeatedly traced prejudice against operations for adenoids and turbinated hypertrophy to the fact that surgeons have removed faucial tonsils, and ignored the presence of adenoid growths or turbinated hypertrophy, or both. The tonsils have been removed, but the obstruction to nasal breathing, due to stenosis in the superior passage, has been allowed to remain. The result was nil, and the entire community was educated by the failure to look with distrust upon nasal operations.

I think, therefore, that the surgeon has a double duty to perform: First, avoid disgracing himself by even an occasional failure which may be avoided. Second, avoid prostituting the operation by a failure which may be used as an argument against the operation itself, thus preventing others from deriving benefits which might otherwise accrue.

Many persons are timid and will not consent to a second operation; hence a person should make the most of his opportunity, that neither he nor the operation may suffer as a result of inefficiency on the part of the operator.

The technique of the operation which I prefer is as follows: Place the patient upon a surgical chair or table which will permit of inclining the body, head downward, at an angle of about thirty degrees; anesthetize the patient profoundly. (I invariably use chloroform.) Incline the face extremely to the right, introduce an O'Dwyer or other effective gag into the mouth. Introduce the forefinger of the left hand into the vault of the pharynx; follow this with the adenoid forceps and remove piece by piece every particle of adenoid tissue, using the extremity of the forefinger as a guide until the vault of the pharynx is entirely clear. Note especially that no obstruction may remain in the posterior meatus.

Regarding the treatment of turbinated hypertrophy, I will say that I have abandoned the use of the snare, chemical agents and the galvano cautery. I have always found the snare very unsatisfactory, and when the use of the galvano cautery was limited to small areas, supposed to pin the mucous membrane to the turbinated bones, the result was not permanent, and when the use of the cautery was extensive it often resulted in areas of scar tissue over which the physiological function of the naso-mucous membrane was not performed. As a substitute for the snare and cautery I have found the removal of a strip of mucous membrane throughout the intumescent area, extending from the anterior to the posterior end of the turbinated bone, to give permanent relief, and accomplish the result in the shortest period of time, with the least inconvenience to the patient. This is accomplished by a particular

forceps, which I designed, and the description of which was published. This instrument has been to me the most valuable instrument in my armamentarium of nasal surgery. It consists of a forceps, very accurately made, having a cutting edge on the concave side, and so curved as to fit the convexity of the inferior turbinated bone. It is introduced through the nostril, until it meets the tip of the left forefinger, which is introduced through the mouth and placed in contact with the posterior end of the inferior turbinated bone. It is now opened and closed and any super-abundance of mucous membrane will fall between the grasp of the two blades of the forceps. With a twisting motion, to avoid laceration, the portion in the grasp of the forceps is removed, and the remaining portion is sufficient to form a complete covering, and thus the whole area of inferior turbinated bone is supplied with mucous membrane, which has perfect circulation and continues to perform its physiological function. The instrument is made very strong and may be used to remove a portion of the turbinated bone if this structure is found to encroach upon the septum. It is, at the same time, the most efficient of polypus forceps, for by it one is often able to remove a portion of the bone, including the origin of the growth, thus permanently preventing its return.

The only objection I have ever heard urged by those who have commented on this operation is the danger from hemorrhage.

I believe this objection to be theoretic rather than real. I have operated a great number of times during the past ten years and often been confronted by what would be considered an alarming hemorrhage, but in almost every case in which a general anesthesia has been administered the arrest has been spontaneous. I often remove both tonsils, adenoid and turbinated hyperthophies on both sides, resulting in a loss of a pint or more of blood, and I have seen the hemorrhage cease spontaneously so many times that I no longer experience anxiety after witnessing the commencement of the formation of a clot.

I may meet a case of hemorrhagic diathesis, in which case the patient will die, but he would as surely die from the removal of one tonsil. I have seen such a case die from the extraction of a tooth, but, barring this extremely rare condition, I regard the danger from hemorrhage as insignificant.

I have had one unpleasant complication from after hemorrhage following the operation performed under cocaine anesthesia. A slight oozing continued for some time after the operation. The patient left the office, and during the succeeding night the hemorrhage increased. His family physician introduced a posterior plug and allowed it to remain forty-eight hours. It became septic, and as it pressed on the Eustachian tube, a middle ear complication followed, resulting in a mastoid abscess, for which I operated. A complete recovery ensued, with perfect hearing.

The moral is: If you use a plug, remove it after twelve hours.

ANESTHETIC.

I would say a word regarding the use of chloroform in nasal surgery. First, the anesthetic must be profound. It must be carried to what some consider the danger line, and in exceptional cases the respiration will be suspended. If this occurs, the remedy is simple. Extend the head, which will raise the epiglottis. Hold the nose and place your mouth over that of the patient. Inflate the patient's lungs once in four seconds until the respiration function is reestablished.* Do not pull out the tongue or waste time with any other method.

AFTER-TREATMENT.

Regarding the after-treatment, I will say that I have come to look on the nasal douche of hot salt water as the most favorable agent in the preliminary as well as in the after-treatment following intra-nasal surgery. There is no agent with which I am acquainted which serves so efficiently and promptly to contract the blood vessels of the nose as hot water, the specific gravity of which has been raised to that of the blood by the addition of common salt. There is no agent which serves better to keep the nose free from the accumulation of septic material than the liberal irrigation with hot salt water.

I am not unmindful of the danger of middle ear complications arising from forcing

*Suspended respiration, N. Y. Medical Record, September 17, 1892.

micro-organisms through the Eustachian tubes, and I enjoin each patient to use a small nozzle, past which the water may escape if it meets with obstructions. The water should contain three teaspoonsful of salt to the gallon, be as hot as can be borne without discomfort, and used from two to ten times a day, depending on conditions. The best douche is a gallon galvanized iron bucket, to the bottom of which can be put an attachment to fit a three-sixteenth-inch rubber tubing five feet long. A shelf or a nail in the wall completes the instrument and your patient does the rest.

Creosote in the Treatment of Tuberculosis.*

By Dr. J. H. Coulter, Summittville, Ia.

In offering a paper on the subject of pulmonary tuberculosis I cannot hope to present anything entirely new on the subject of pathology, etiology, histology or hygiene. What I shall say will be along the line of treatment. Perhaps no other disease offers so attractive a field to the charlatan as do the victims of consumption. Promising sure and speedy cure, the poor patient, like the drowning man, grasps at the straw, only to be the more certainly and quickly drowned. For, as a rule, those who advertise such trash are aware of its worthlessness better than anyone else. Recently one of my patients read of one of these sure cures and went to Elgin, Ill., where he remained two weeks, coming back with a fancy nickel-plated teapot, which cost him over $200, and yet was simply a means of inhaling vaporized carbolic acid, no better than the common steam atomizer which he could have bought at home for two dollars.

In looking over the history of the disease we notice each year has heralded the advent of some new remedy, lauded for a time, but finally relegated to the obscurity and oblivion it justly deserved. Almost everything in the whole materia medica has had its trial, and been recommended by someone. Among some of the most recent may be mentioned proto neuclein, anti-tubercle serum, menthol, cinamic acid, permanganate of potash, a combination of phenol and pilocarpin, and calomel have each been tried and praised for their effect. But the number of cases of most of them are not large enough, and the results so uncertain that positive deductions cannot be made. Creosote, of which I wish to speak to-day, was at one time threatened with the same fate, for, in an article in the "Journal of the American Medical Association" of October 28, 1893, it says: "Cures for consumption multiply as quickly as the leaves in Vallambrosa, but the victims die as usual. The latest contribution to consumption cures is announced in a dispatch from Berlin, to the effect that one Dr. J. Summerbrodt is now curing tuberculosis by the administration of creosote. It is well known that creosote is an anti-bacillary agent of high power, but we are sure that Americans will do well to await further particulars before going wild over this new-old discovery.

"The memory of the Bergeron method, the stupendous failure of tuberculin and the history of the myriad other failures, each heralded in its day as an unfailing remedy for the scourge, will operate to cause a suspension of judgment until results shall have finished the demonstration."

However, creosote still holds the fort and is used, I believe, to-day by a greater number of physicians than the total of all other remedies. I mean, of course, to include such adjuvants as cod liver oil, strychnia, iron and alcohol. I think it has been the experience of those who have prescribed creosote often that they get better results in the same ratio as they were able to employ the remedy in large doses. To Dr. J. F. Cole of Oelwein, Ia., is due the credit of being the pioneer in the matter of giving heroic doses of the "fiery fluid." In a paper read before the Iowa State Medical Society in Des Moines last May he reported unheard-of results.

Having a number of cases of the disease on hand, I decided to follow Dr. Cole's example and try the gradually increasing doses, and did so with results that were most gratifying to both myself and the patients, as the following charts will show.

Case I: Miss C., age 26; mother died of mitral disease and two sisters of diphtheria. I first saw patient on August 27, 1898; she complained of cough, night sweats, loss of appetite and feeling very tired and

* Read before the Tri-State Medical Society at Quincy, Ill.

weak; very pale and scarcely able to walk. On examination I found consolidation of the lower portion of the left lung; pulse 120, temperature 101; menses suppressed. On examination the sputum was found to contain myriads of tubercle bacilli. I put her on guiacol carbonate gr. xv, and strychnia sulph. gr. 1-40 every four hours, with Blaud's pills after meals. She seemed to improve considerably, but complained of the expense of the guiacol, when I changed to creosote, in from 5 to 8 minim doses, three times daily. With still slight improvement, but not improving as fast as she hoped, she became discouraged and began taking patent medicine, which she continued until she was unable to stay out of bed. I was called to see her again on January 16, 1899, and found her unable to even sit up in bed. There was a great pallor and emaciation; face looked pinched; cough very harassing and frequent; pulse 130, temperature 102; very despondent. I at once ordered creosote, beginning with 20 minim doses mixed with an equal quantity of Moeller's cod liver oil, taking it in capsules, always after meals, and gradually increasing the dose until 75 minims of creosote was being taken, provided she noticed no irritation of the stomach or kidneys. I gave her a chart to be filled out, which reads as follows:

January 20—Weight, 90 pounds; cough no better; appetite and night sweats better; not feeling any stronger; minims of creosote taken 40.

February 18—Weight, 95 pounds; cough, appetite and night sweats better; feeling stronger; minims of creosote taken 60.

March 6—Weight, 97 pounds; cough still better; appetite good; no night sweats; feeling much stronger; minims creosote 80.

March 19—Weight, 99 pounds; cough almost gone; appetite excellent; no night sweats. Minims creosote taken 90; menses restored.

March 26—All symptoms very much improved; weight, 101 pounds; minims creosote taken 105.

March 31—Improvement still continues; cough almost gone; weight, 102 pounds; minims creosote taken 115. Patient wrote me on this date saying I feel as well as I ever felt. Examination of the sputum at this time showed entire absence of tubercle bacilli.

Case II: Mrs. J., age 30. One brother is subject to pulmonary tuberculosis; parents living and healthy; physical examination reveals a cavity in the lower part of the upper lobe of the left lung; pulse 130, temperature 103; night sweats, progressive loss of flesh; menses suppressed; examination of the sputum at several different periods always showed tubercle bacilli. I had treated this lady for the past two years, keeping her on creosote in small doses, or guiacol carbonate, alternating at intervals with proto-neuclein, and one or two other popular remedies, but seemed only at best to hold the disease in abeyance to some extent, with no marked progress toward a cure. On January 3, 1899, I advised her to begin taking creosote and cod liver oil, and in the same manner as in case number one, her weight at that time being 105 pounds. I failed to furnish her with a chart until February 14, which reads as follows:

February 14—Temperature 100, pulse 120; cough and appetite better; night sweats still continue; feeling stronger; minims creosote taken 35.

March 2—Cough and appetite much better; feeling a great deal stronger; taking 60 minims creosote; weight, 114½ pounds.

March 9—Cough and appetite still improving and feeling stronger; night sweats stopped; menstruation re-established; weight, 117 pounds; taking 67 minims creosote.

March 16—Cough almost gone; no night sweats; appetite excellent; weight, 118 pounds; minims creosote taken 75.

Case III: Joseph C., age 25 years; mother and sister died of tuberculosis. He had just returned from the army, where he had been in the hospital for 120 days with typhoid fever, with a tedious convalescence. Before being able to be sent home on a hospital train, was just able to walk. I was called to see him on January 21 just past to relieve an attack of pulmonary hemorrhage. This attack was followed in the next five days by four others, one of them very profuse. Upon physical examination I found extensive consolidation of the apex of the left lung, mitral regurgitation, temperature 100, pulse 115;

weight, 140 pounds; very troublesome cough. I was only able to procure one specimen for the microscope, as the patient went to a distant city; in this the result was negative, still to one who knew his family history and saw him there could be little doubt as to the tubercular origin of the hemorrhages. I ordered the same treatment as in cases I and II and told him to increase the dose slowly and cautiously until he noticed some gastric or kidney irritation, or was taking 90 minims of creosote. On account of failure to return the chart sent him in time to include here I am obliged to make a report of progress of his case from letters received. On February 6 I received a letter from him saying: "I am taking 90 drops of creosote three times daily; can take more if you think best, as it does not bother me in the least. I have recovered from my trip and hemorrhages and feel as though my room is getting too small for me."

February 27 he said: "I have increased the creosote to 100 minims, or 300 daily, and as yet have detected no ill effects. I take the pure creosote now in 3.00 capsules three minutes apart; my cough is scarcely noticeable; night sweats almost gone; weight, 160 pounds, and in every way I am very much better." I was compelled to leave the chart with the patients, as most of them lived at such a distance that they were unable to get to the office, or I to go and see them often, and on that account was unable to get the pulse rate and temperature as often as I desired.

In regard to the method of administration I have so far used the ordinary beechwood creosote, but would, if I found that it irritated the patient's stomach, use Merck's instead. I use Moeller's cod liver oil and furnish the patient with three sizes of gelatine capsules, Nos. 1, 0 and 00, and tell them to take their choice. They soon use the large one, as it takes fewer of them. They fill them with the ordinary medicine dropper, and if, after taking, they are troubled with burning or eructations in the stomach, a glass of milk will soon correct it. They all say that they are unable to tell by the sensation of the stomach whether they have taken five minims or one hundred. I have a number of patients who have commenced the same treatment later than those just reported who take from 35 to 100 minims and they all tell the same story in regard to the toleration of the remedy.

I push strychnia in all these cases in doses ranging from 1-40 to 1-20 grain every four hours, and iron in the form of Blaud's pills in suitable cases. In others Tromer's extract of malt with cod liver oil. I regret that the report of these cases does not cover a longer period of time, but I hope at a future meeting of this society to be able to report these as well as other cases permanently cured by this method of treatment.

The Treatment of Tuberculosis.

By F. E. WAXHAM, M. D.
Professor Diseases of the Chest and Laryngology.

[A brief synopsis of a clinical lecture delivered at the Chicago Clinical School.]

Gentlemen:—We have with us to-day a number of cases of tuberculosis, some of them incipient and some of them well advanced. We cannot do with these patients as we would wish. We cannot send them away and give them the benefit of a change of climate, but shall be obliged to take "Hobson's choice" and do the best we can for them here. Some of these cases are most suitable for climatic treatment, and we could, with almost certainty, predict for them rapid, and I have no doubt permanent recovery under the beneficial influence of a suitable change of climate. This being out of the question with this class of patients, what shall we do for them? The treatment may be summed up under three or four headings. First, improve the environment; second, improve nutrition; third, physical culture, and fourth, administration of medicine.

Most of these cases are poorly nourished, and some of them still continuing at manual labor. We will first advise less work, either shortening the hours of labor or abandoning it altogether. We should then look to the surroundings, and improve upon them in every possible way. They should live in dry, warm, light and well ventilated apartments, instead of dark, damp and ill ventilated rooms, perhaps in a basement or first floor of some poor house. It is sometimes surprising how much we can accomplish in the way of improving upon a patient's surroundings and mode of life. Long hours

of sleep and rest are also needed. We should keep a patient out in the open air as much as possible. In the summer time they should spend their days in the parks, and if possible should be sent to the country for a few days or weeks at a time. If living in the country they should sleep in tents during the warm season, and in the city the apartments should be well and thoroughly ventilated.

Perhaps the most important feature in the treatment of tuberculosis is the improvement of nutrition, assimilation and digestion. This we accomplish by means of outdoor life as far as possible, careful exercise and the use of the most nutritious and digestible food. Indeed, without overtaxing the powers of digestion, we should crowd the nourishment to the full limit.

Physical culture and lung gymnastics are extremely important. A patient should be taught to expand the lungs to full capacity and likewise emptying them many times daily. The benefit derived from deep inhalations I believe to be due almost entirely to forced respiration.

In regard to the administration of medicine, I believe it to be the least important of all the measures. No specific has yet been found, and yet indications must be met in dealing with this disease, as well as in others. Tonics are frequently called for, and I believe one of the most important is strychnia, commencing with 1-48 of a grain and gradually increasing to the limit of toleration. Arsenic may be given instead in the same manner. Expectorants are rarely called for, but codeine may occasionally be given to control a dry and irritable cough that often greatly disturbs one's sleep and rest.

In regard to the inhalation of antiseptic vapors I have but little faith. These vapors will not penetrate the muco pus and destroy the bacilli therein, and much less will they penetrate the mucous and submucous tissues. In regard to the administration of internal antiseptics I believe that oil of cloves, guiaiacol or creosote are the most important. But to be efficient they should be crowded to the limit of endurance. One of these patients has been able to increase gradually the dose of oil of cloves to fifty drops three times a day, and under this treatment, as well as the other measures outlined, has gained fifteen pounds in the last three months, and all symptoms have improved materially.

To recapitulate, in dealing with these patients, we will direct their mode of life in proper channels, guarding against excesses of all kinds, and improving their environment. Cautioning against over-work or worry, improving digestion, increasing nourishment and nutrition, insisting upon outdoor life as far as possible. Cleanliness and cool sponge baths, and meeting the indications in the course of the disease as they arise.

103 State street.

Hemoptysis.

Dr. Harrington Sainsbury's views on the treatment of hemoptysis are briefly given in "Treatment." In tuberculosis there may be no physical signs, and yet oozing occurs from small vessels with miliary aneurisms. This initial hemorrhage may be profuse enough to cause death, even when no ulceration nor consolidation exists, but usually when the hemorrhage is large, under these circumstances (absence of signs), ulceration is present; all the more when the signs also are present (consolidation, shrinkage, cavitation). Sudden copious hemorrhage in a case of phthisis of long standing with localized lesion indicates aneurismal dilatation in a vessel of considerable size.

As the bleeding point is not accessible, treatment is limited to reduction of blood pressure and improvement of blood. To accomplish the former give the patient a recumbent posture with head and shoulders comfortably raised after the patient has been calmed from the excitement consequent on the accident. The patient should be carried to the bed, not allowed to walk there. Matter-of-fact attention must be given to details, without hurry or excitement by nurse. Patient must not talk nor raise the voice. The attendants must not whisper. Give broken ice to suck. Treat cough with morphia (one to ten grains upward). Keep bowels open to avoid increased blood-pressure. Keep room cool and well ventilated. Give bland and unstimulating nourishment, milk especially. Apply bag or hot flannels to chest to quiet circulation in mucous membrane of bronchial tubes, as occasion requires. Give chlorid of calcium in doses varying from eight to sixteen grains repeated pro re nata.—American Medico-Surgical Bulletin.

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Nervous and Mental Diseases.

By Archibald Church, M. D., Professor of Clinical Neurology and of Mental Diseases and Medical Jurisprudence in the Northwestern University Medical School (the Chicago Medical College), Chicago; Professor of Neurology in the Chicago Policlinic, Neurologist to St. Luke's Hospital, Chicago; Consulting Neurologist to the Home for Destitute Crippled Children, Chicago, etc.; and Frederick Peterson, M. D., Clinical Professor of Mental Diseases in the Women's Medical College, New York; Chief of Clinic, Nervous Department, College of Physicians and Surgeons, New York. With 305 illustrations. W. B. Saunders, 925 Walnut Street, Philadelphia, 1899. Price, cloth, $5.00 net; half Morocco, $6.00 net.

The above volume is certainly one of the most worthy ones that has appeared in some time past. The authors have attempted making a practical and reliable text-book for the student and practitioner, rather than particularly for the specialist in that line of work. Each author has his separate department of the volume, Dr. Church occupying the first 600 pages with a discussion and description of Nervous Diseases, while Dr. Peterson in the remainder treats of Mental Diseases.

The authors have certainly added a new charm to the study of neurology by their very interesting and attractive style, which, while exact and scientifically correct in its detail, is yet remarkably condensed. A well-known authority in reviewing the volume says: "To have spoken to the average physician twenty-five years ago of a text-book of nervous diseases admirably condensed into 600 pages would have been to excite a quizzical smile, and it is suspected that not a few doctors of to-day consider a volume of that size quite exhaustive, and yet the first feeling upon a careful reading of the 600 pages before us was, 'how admirably condensed!' The author seems to have striven on every page, in every paragraph to give the altest and best product of the neurology of to-day without a particle of extraneous or superfluous matter. Unproved hypotheses, untried theories, disputed discoveries, anatomical details without practical bearing, physiological facts without evident clinical relations are systematically suppressed; no fads are aired, there is no intrusion of personal views; a long sentence is never used where a short one meets the demand. With all of this the reading is not unattractive and astonishingly little of value has been omitted. The work is really what it aims to be, an epitome of what is to-day known of nervous diseases prepared for the student and practitioner in the light of the author's experience.

Regarding the arrangement, classification and apportionment of space to the various subjects little need be said. The first two are in accord with precedent and modern pathology, and the last has been excellently managed. Of especial merit are the chapters on multiple neuritis and hysteria and the articles on exophthalmic goiter, chorea and sinus thrombosis, the last being decidedly better than that in any text-book with which we are acquainted. It is clear, up to date and valuable alike to surgeon and physician.

In reading the product of Dr. Peterson's pen the first quality that struck the reviewer was its attractiveness. We believe that no work having at the same time the merit of sound subject matter presents the difficult subject of insanity in such a reasonable and readable way. The author avowedly has in mind the needs of the student and practitioner for whom psychiatry must have a somewhat subordinate interest, and he accordingly divests the subject of all the non-essential technicalities, speculation and psychologic refinements that have clung to it for years, and have always served to mystify and repel the busy student as well as the busy doctor. So well has the author accomplished his task that the temptation is to begin at the beginning and not stop until the last page is finished; and it is devoutly to be hoped that many a student and many a practitioner will do exactly this, for he who masters these 220 interesting pages will have such a broad, logical and safe knowledge of mental diseases as falls to the lot of none outside of the best alienists. The articles on the general etiology and general symptomatology of insanity are exceptionally fine. Indeed, we are acquainted with nothing in English quite so good as the pages on hallucinations, illusions, disorders

of association, etc. While the chapter on idiocy is one of the very best in the book, its length is disproportionate for a work of this kind. With only ten and a half pages devoted to melancholia and but two more to general paresis, fifty pages on idiocy are too many for the general practitioner.

The volume throughout is profusely illustrated with a large number of excellent halftones, almost all of them being from original cases of the authors. Such an amount of high-grade illustration adds in no small measure to the practical value of the volume.

An exhaustive index of 27 pages completes the volume.

Pruritus Vulvae.

Dr. E. T. Beall (Texas Med. News) gives the following formula and says it has served him well in many cases in which measures suggested by other writers have failed:

℞ Quinine sulphate, gr. 20.
Menthol, gr. 8.
Carbolic acid, gr. 24.
Citrine ointment, gr. 60.
Ichthyol, gr. 150.
Lanolin, gr. 360.
Castor ol., gr. 600.

M. To be applied freely after ablution of the vagina and vulva with hot water.—N. Y. Med. Jour.

Mr. Hervey Coke Parke, the senior member of the house of Parke, Davis & Co. of Detroit, died February 8, 1899, at his winter home in Southern California, whither he had lately gone to escape the rigors of late winter and early spring. Mr. Parke had attained the ripe age of 72 years, but was an active man of affairs to the very last. In his youth he attended a high school in Buffalo and completed his studies at Hobart College. He etsablished the house with which his name has been so prominently associated in 1866 and in 1875 it was incorporated with a paid-up capital of $100,000, which was subsequently increased to $1,200,000. This eminently successful house owes its prosperity in no small degree to the business sagacity and sterling integrity of Mr. Parke, who had been its president since 1875.

CHICAGO CLINICAL SCHOOL.

The following operations were performed in the West Side Hospital, during the month of March, the students in attendance at the Chicago Clinical School being present. Compiled by Senior Interne Dr. Bebb:

5 Appendicitis—Appendectomy.
2 Tympano-mastoid Operation.
1 Carcinoma of Neck—Excision.
2 Carcinoma of Uterus—Vaginal Hysterectomy.
2 Tubercular glands of Neck.
1 Tubercular Testicle—removal of Epididymics.
3 Curettement and Ventral Suspension.
4 Varicocele.
7 Adenoid Operation.
1 Varicose Veins of Leg—Resection of Internal Saphenous Vein.
2 Vaginal Hysterectomy.
1 Cataract—Extraction.
3 Hemorrhoids—Cautery.
1 Curettement and Emmett Operation on Cervix.
1 Cystic Bronchocele—Excision.
1 Floating Cartilage of Knee.
1 Frozen Fingers—Amputation.
4 Tonsillectomy.
5 Tonsillotomy.
2 Curettement of Ear.
3 Exostosis—Nasal.
2 Hypertrophy of Septum.
3 Trachelo—Perineorraphy and Curettement.
1 Pelvic Abscess—Drained.
2 Amputation of Cervix and Curettement.
1 External Urethrotomy.
2 Schede's Operation for Varicose Veins.
1 Inguinal Adenitic—Excision of Glands.
1 Osteomyelitis of Jaw—Curettement.
1 Hydrocele.
2 Cataract—Extraction.
1 Glaucoma—Iridectomy.
1 Cellulitis of Leg—Drainage.

The Chicago Clinic.

A HIGH-GRADE MONTHLY PERIODICAL DEVOTED TO THE MEDICAL PROFESSION.

J. HOMER COULTER, M. D., Editor.

Brief news items, reports and papers of interest from any section of the country respectfully solicited.

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EDITORIAL AND BUSINESS OFFICES:
819 W. Harrison St., Chicago.

ERRATA.

In our last month's number there were several errors which were not only annoying, but exceedingly to be regretted. In the lecture of Prof. Quine there were several proof corrections which we unfortunately allowed to escape our notice in the final reading. And while we know that apology does not correct the error in these cases, we feel that our readers do not have much cause for complaint on this ground, and hence we beg their, and the author's, kindly indulgence in this instance.

In the article of Dr. Wiener there were several quite as annoying errors. On page 93, in the paragraph beginning with "To Lorenz of Vienna belongs the credit," wherever the word "adduction" occurs, read "abduction." It seems one of those strange perversions of fate that the one letter, which, if changed, would so materially affect the entire article and its purport, would be the very one which was changed and which was overlooked in the proof-reading. Some of our readers may have wondered what the illustrations illustrated in this article of Dr. Wiener's, for under the one marked Fig. 1 we should have read the following:

"Skiagraph of congenital dislocation of hip in child three years old."

Under Fig. 2 should have appeared the following:

"Showing heart-shaped acetabulum, with drawn-out ligamentum teres and hour-glass formed capsule, the anterior wall of which has been removed."

In a recent printers' journal was the following: "The proofreader has a thankless task. Nobody gives him any credit for the countless blunders he corrects and everybody jumps on him for the few that he overlooks."

COLLEGE OF PHYSICIANS AND SURGEONS.

As is usual with college commencements, the alumni dinner is not the least important function of the week. Physicians and Surgeons' graduating exercises began on the evening of April 18th, with the seventeenth annual alumni banquet at the Auditorium Hotel, which, for sumptuousness, elegance and interest, has not been excelled by any such occasion which it has been our pleasure and honor to attend in the past few years. Over four hundred guests sat down to the banqueting tables, quite filling the large hall. Among them were seen many of the graduates of former years from out of the city, who had come in for a brief renewal of old friendships. From each and all of these came unanimously the most gratifying words of surprise and congratulation on the remarkable progress which the medical department of the university has made in the past few years.

After an elaborate menu of ten courses had been served, Professor John B. Murphy, acting as toastmaster, in his most charming and seductive style introduced the following program of toasts:

The Medical Profession .....
.....President A. S. Draper
The Relation of the Legal and Medical Professions.....Judge T. A. Moran
Co-education .....Mrs. L. L. Flower

The Doctor as Viewed by the Preacher.....Rev. Wm. A. Burch
The Journal of the American Medical Association.....Dr. Geo. H. Simmons
What's What.....Mr. J. B. Armstrong
The Beacons of the Future.....Philip G. Sanderson, '99
The Doctor's Wife .....Dean William E. Quine

To mention any of the speakers in particular would be an injustice to the rest, yet we cannot avoid saying that Professor Quine was at his best. To say that he was never more eloquently beautiful means much to those who were not present, but such an assertion is safe.

On Wednesday evening, at Central Music Hall, the graduating exercises took place. The audience room was filled to its capacity with the friends of the class and the college. The decorations were beautiful, and the following program was most entertaining in every particular. The musical program was by Lyon's Orchestra:

Music .....
Prayer.....Rev. W. A. Burch
Doctorate Address .....
....Prof. John E. Harper, A. M., M. D.
Music .....
Conferring of Degrees and Announcing of Honors .....
Andrew Sloan Draper, LL.D., President
Music .....
The Charge to the Class on Behalf of the Faculty.....Prof. John B. Murphy
Music .....
Response of the Class and Valedictory..
.....Dr. George S. Browning
Benediction.

The following is the list of graduates. One of the most noteworthy features of this class is the fact that half of them have received, previous to this occasion, some one or another college degree:

Albrecht, C. A.
Andrews, H. F.
Backus, J. W.
Barker, E. S.
Barnes, F. L.
Bay, H. H.
Bechtold, A. F.
Beedy, Miss Lora L.
Betz, J. C.
Brown, J. M.
Browning, G. S.
Best, E. E., M. D.
Burke, T. J.
Bush, J. H.
Butler, C. A.
Chambers, W. H., M. D.
Carroll, H. C.
Chloupek, E. A.
Coen, C. M.
Crosby, L. G.
Campbell, W. B., M. D.
Czarra, C. H.
Dugan, J. H.
Edwards, J. M.
W. A. Evans, M. D. (ad eundem).
Fellows, Miss Marie A.
Feingold, Leon.
Frank, Ira.
Fisher, G. C.
Freas, F. L.
Fantus, B.
Garth, J. W.
Gathman, Henry.
Goggin, R. J.
Grabowicz, B. C.
Grimes, J. P.
Hammond, J. L.
Heald, H. C.
Herzog, A. E.
Hillebrand, H. J.
Hummel, C. C.
Hukill, Miss H. Luella.
Hisom, Mrs. Helen T.
Hillard, T. R.
Harris, F. G.
Hunter, Mary G., M. D.
Jacobson, A.
Janss, Herman.
Koenemann, E. O.
Kay, Abbott E.
Kelley, Luke H.
Klokke, W. E.
Knudson, F. B.
Krueger, A. G.
Klein, M. J.
Kelsey, R. C., M. D.
Laftry, T. D.
Lucas, D. E.
Lemke, A. R.
Long, R. D.
Lerch, W. H.
Long, W. E.
Macy, O. E.
Markey, F. F., M. D.
Moore, F. D.
Myers, F. W.
McCarthy, R. G.
McWilliams, O. E.

McCormick, C. A., M. D.
McClug, Alberta V., M. D.
Metcalf, J. E.
Madajesky, E. H.
Meyers, F. W.
Olsen, W. C.
Potter, J. Y.
Peters, J. A.
Platt, B. M., M. D.
Pleth, V., M. D.
Reich, W. F.
Ramsey, F. P.
Richards, F. A.
Reasoner, M. A.
Rich, G. R.
Raw, E. J.
Russell, H. R.
Sanderson, P. G.
Sisson, C. E.
Slightam, C. H.
Steele, F. B.
Strohecker, S. M.
Sullivan, E. A.
Sawnson, J. E.
Smith, T.
Stilliams, A. W.
Schmidt, G., M. D.
Schoenberg, A. J.
Stuart, J.
Scheib, G. F.
Taylor, J. R.
Timm, E. W.
Turner, J. H.
Tieken, T.
Walsh, J. L.
Wenzel, J. V.
Wherry, J. W.
Winans, E. C.
Wood, Glenn.
Whitmore, E. R.
Wilson, L. A.
Weber, C. E. L.
Wanicek, E. W.
Weichbrodt, E. A., M. D.
Yeakel, W. K.
Yingst, Sallie A.
Zurawski, K. A.

HONOR ROLL, 1898-99.

Herbert F. Andrews, B. S. (Gold Medal and Saunder's Prize).

Jonathan C. Betz.
Ira Frank.
Frank W. Meyers.
Harvy C. Heald.
Henry Gathman.
Wm. B. Campbell, M. D.
Hiram H. Bay.
Herman Janss.
Clarence H. Slightam.

CHICAGO THE MEDICAL CENTER.

We Chicagoans have long been tooting our own horns and telling the American medical profession that we were the medical center of the United States, but not until late has it been generally acknowledged. In a late number of the "American Journal of Surgery and Gynecology" the editor devotes his entire issue to the contributions of Chicago writers, naming it the "Chicago number." Such a compliment is fully appreciated, we assure our St. Louis friend, and would congratulate him on his sagacity and foresight.

A lengthy reference is made editorially to the Chicago profession, and we can only hope that the medical profession elsewhere than in St. Louis sees us in the same light as does the genial Lanphear. Among the many kindly remarks he has the following to say regarding us:

Chicago is the ideal place to practice medicine. While it is true that the medical profession is greatly overcrowded (as where is it not?), and the struggle for existence is thereby rendered severe, yet the petty bickerings and trifling professional differences do not become apparent to the outside world, if they exist at all; if quarrels occur they are kept strictly private, so the profession at large receives the impression that only the best of feeling exists among the medical men of that great city.

Further, whatever may be the personal prejudice of prominent physicians of Chicago against their fellow practitioners they keep their opinions to themselves when away from home, speaking only of the good work done by their competitors. As a result of this plan of commending, rather than deprecating, of reciting excellent ends attained, rather than giving an epitome of mistakes committed, the general estimate of the capabilities of the medical men of Chicago has become a high one, so that to-day the judgment of the average doc-

tor—at least he of the great West and South—is that in no other place on earth may be found so many truly great medical men as in the City by the Lake.

A curious feature of Chicago (medical) life is the willingness of the doctors to impart their knowledge to others. According to the catalogues issued in 1898, there are in that city 572 men who hold full "professorships" in colleges of acknowledged good standing—not to mention those in ill repute; 328 who are "instructors, assistant professors and demonstrators;" and 96 other than these who are clinical workers in college dispensaries! A total of 996 engaged in active college work! There can be no question that nowhere else on this globe can a showing one-fourth as great be made. Truly, Chicago is to be the great "medical center" of the world.

What is of more importance to the medical world at large than this tendency to lecture is the propensity of Chicago men to write—copiously and well. They write books which at once become standard authorities. They write articles for medical journals that are quoted throughout the world. They discuss essays in such a masterful way that the proceedings of their societies are read with avidity and quoted with approval wherever the English language is spoken. A dozen men there are who attract attention wherever they go by the magic of their names; great names; scores there are of others almost as good, almost as great—deserving men and enthusiastic; workers of intensity and of earnestness; toilers who will soon also become known in every land. Truly, Chicago IS a great medical center, and the end is not yet.

MEDICAL EDITORS AND PUBLISHERS.

We have for some years wondered why it was that the editors and publishers maintained two distinct associations in the American Medical Association. It is a well-known fact that almost all of the publishers are also editors of their respective journals, and hence it would seem that the necessity for two organizations is rather an apparent than a real one. The interests of both are practically synonymous, hence with these two facts there can be no good reason why they should not henceforth work together for the good of both.

Secretary Fassett of the Publishers' Association has urged a union of the two; so also many of the more prominent and working members of the editorial association have consented to a unification. Inasmuch as the time of the meeting week is so completely taken up with various matters of greater or less import, we would most heartily urge the adoption of the plan to have but one meeting of the medical journal guild. C.

THE ERGOGRAPH.

Dr. W. S. Christopher, who is a member of the Chicago Board of Education, has designed an instrument for testing the strength and endurance of children; he has very properly named it the ergograph. Dr. Christopher is at present making a series of practical experiments with the instrument in one of the largest of the public schools. It is proposed that the results obtained will be used as a standard for the treatment of pupils as to their capacity for mental endurance and physical exercise. Many who are scientifically capable of judging and have seen the workings of the instrument are enthusiastic in the belief that the results obtained will be most important, and will serve to revolutionize many of the now common methods.

Theoretically, and practically as well, this machine will determine at what point the "fatigue period" in the life of the child is reached; or in other words, whether or not the vital forces and functions of the child are then at a low ebb. If it is found to be so, then the mental strain to which the

child is subjected can be regulated to suit the conditions present. Of course, in this calculation the weight, strength, general physical condition, muscular strength and powers of endurance must be taken into consideration in the calculation, and the general results are based on these conditions, as well as on the reading of the ergograph. C.

THE PHYSICIAN IN POLITICS.

According to the latest dispatches, Dr. Nicholas Senn's friends have announced him as a candidate for the Republican nomination for the gubernatorial chair. We feel like hailing this additional evidence of the approaching millennial dawn with three cheers and a tiger. We have always contended that there was only one way in which to secure for the profession deserved recognition, and that that was through the proper observance and performance of our duties as American citizens. It is consequently with especial feelings of satisfaction that we note the above, and hope that it may only be the beginnings of "the physician in Illinois politics."

There seems to be a more or less general impression that either a solicitous interest in things political or a proper, sensible and successful financeering ability is incompatible with a skillful and conscientious fulfilling of the promises of the highest type of professional life; but as yet I have never read or heard of a satisfactory or reasonable excuse for the existence of such an idea. I contend that it is erratic and that it originated with the profession itself, and consequently the blame is not hard to place. But for the talented physician to argue that honorable business methods or an active interest in the welfare of his ward, city, district, state and country are incompatible, or cannot be combined with the honorable practice of medicine, begins at least to appear as suspicious.

Honesty and discretion are indispensable correlatives, but why should these attributes apply less directly to his personality than to his environment? Through them comes to his name and character an integrity, strength, political standing and protection which nothing else can supplant.

That the physicians are not more favored by the statutes of the various states is in a large measure their own fault. They have not claimed their just deserts at the hands of the lawmakers. They have left too long already the matter of politics in the hands of the politicians. Now they are awaking all over this land to find that these same wily manipulators of legal technicalities have left them out in the cold.

This is one phase of professional life to which we must pay more attention as physicians, lest we lose our birthright and have not even a mess of pottage to show for it. C.

THE ILLINOIS STATE MEDICAL.

The meeting at Cairo on May 16, 17 and 18, from present indications, promises to be one of the best attended state meetings held in some years. The program, which is quite long as well as promissory of much interest, was referred to in our last issue. It would seem that Chicago is unusually interested in the meeting this year, judging from the number of contributors to the program. Doubtless few of the profession have ever visited this quaintly located and rather historic old city on the jumping-off place of Illinois, so that there is a double incentive for the prospective attendance from the northern part of the state.

The Illinois Central have recently sent out a circular which gives full information as to how to go and when. Two or three days away from business will do you good and you will more than make up for the time lost from practice by the renewed vigor it will give you.

ABSTRACT.

Notes on the Treatment of Uncomplicated Acute Gonorrhea.

By JOSEPH RILUS EASTMAN, M. D., Indianapolis.

During the first days after infection, when the phenomena of increasing inflammation are salient, the treatment of acute gonorrhea may be restricted to absolute rest and dietetic measures. If it were possible to keep the victim in bed, to prohibit the ingestion of heavy, nitrogenous and sharply seasoned food, alcohol, etc., there is little doubt that, with no other medication than local hot wet-packs of lead-water or acetate of aluminum to allay swelling, and exhibition of bromides to prevent priapisms and pollutions, spontaneous cure would follow after two or three weeks. As is well known, however, practically all patients decline to stop the pursuit of business, because of the generally current misconception that an attack of gonorrhea is no worse than a bad cold.

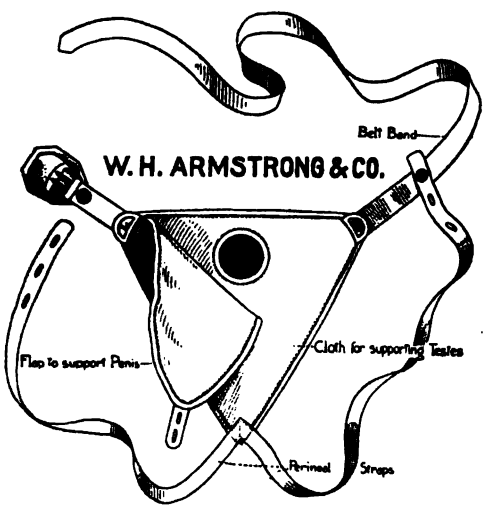
In all cases, ambulant or otherwise, protection from epididymitis and like complications is best secured by the use of a properly chosen suspensory bandage. The selection of this appliance is a matter of no mean importance. Nine out of ten of the ordinary marketable suspensory bandages are of no service whatever in removing the weight-strain made by the testes upon the spermatic cord. The vulgar suspensory of trade, consisting of a belt and dependant sack to contain the scrotum and testes, is useless without perineal straps, and with perineal straps is very little better. The pouch is generally so roomy that, no matter how tightly the band encircling the hips is drawn, the testes still hang, dragging upon the sensitive and rebellious spermatic cords. A suspensory bandage should suspend.

The writer believes the German "Teufel's Sport Suspensor" to be peerless among suspensories for use in gonorrhea. It is much like an ordinary jockey strap, and was originally intended for bicyclists, tourists, oarsmen and athletes generally. The device consists of a three-cornered piece of loosely but firmly woven fabric, the three sides of which measure, according to the size of the bandage, from six to nine inches. A strip of soft tape about an inch in width is attached to two corners. This is provided with a buckle, and is interwoven with rubber for about two inches from the corners to which it inserts, rendering it elastic. The third corner is drawn back to a point on the perineum near the anus and held in place by soft, strong, elastic perineal straps, which button to the belt about two inches distant from the junction of the belt and three-cornered cloth. There is an annular opening about one-third inch below the upper margin of the cloth at its middle, through which the penis is to be drawn, and a narrow hammock-like strip of the same fabric of which the three-cornered suspensor proper is made, and lying anteriorly to the latter, furnishes a sort of trough into which the penis may lie wrapped in cotton and entirely protected from insult.

Teufel's Sport Suspensor is admirably constructed. The fabric will not sag to an appreciable degree, but holds the testes firmly against the perineum. The joints are all padded. The buckle in the belt-band lies upon a small, thin pad, and the workmanship is all good. Patients who have used other suspensories are invariably exclamatory in their praise of the Teufel Suspensor. The sense of security and comfort which it provides is most agreeable. It may be had of William H. Armstrong & Co. of Indianapolis, Ind.

A hope has long been held out that some remedy would be found which, if taken internally, would, by producing changes in the blood and urine, or by direct inhibitory action upon the microbes, arrest permanently the progress of gonorrhea; but none has been found which will limit appreciably the duration of the inflammation or accomplish more than partial relief of disuria, discharge and chordee. Certain remedies, however, as is known, when administered by the mouth, render the urine slightly germicidal. One of the most efficacious of these is salol, five grains three times a day. Other internal medicaments which modify the course of an acute gonorrhea are copaiba, cubebs and oil of sandalwood. Cubebs and copaiba are mildly antiseptic, but are too irritating for toleration in acute urethritis. Their continued use in large doses may, moreover,

produce gastric distress demanding their withdrawal. Anorexia, vomiting, diarrhea, cutaneous erythema, urticaria and albuminuria are common accompaniments of their use. Sandalwood oil is slightly less powerful as an antiseptic, but has the advantage that it may be taken in large doses with little fear of gastric irritation. (Marked kidney disease is a contra-indication to the use of either salol or balsams.) In routine cases, oil of sandalwood is a valuable auxiliary to local treatment. The sandalwood oil of Lehmann of Berlin is highly rectified and pure. It is unadulterated with Ceylon oil of camphor, as are most sandal oils, and may be given in large doses with benign effect. It causes neither backache nor fever.



TEUFEL'S "SPORT-SUSPENSOR"

In rare instances the discharge seems to be aggravated by the balsamic remedies. This may happen when the posterior urethra is involved. The urine may then be rendered mildly antiseptic by the following blander remedy: Acidi borici, sodii bromidi, of each, 10; tinct. belladonnæ, 4; liq. potassi citratis, 250. M. S.—Tablespoonful in water four times daily. (White.) If in the acute stage the ardor urinæ is not relieved by sandalwood oil nor the above prescription, the injection of a few drops of cocaine or immersing the penis in hot water during the act of micturition will allay the burning.

There is much debating as to whether it is expedient to begin injections immediately after the discharge appears, or to wait until the acute inflammation has abated. The investigations of Bumm and others have shown that the gonococci very quickly penetrate the epithelial covering of the mucous membrane and collect in great numbers in the lymph spaces of the more superficial connective tissue and in the glands of Littre and crypts of Morgagni. The inflammation goes on, to result not only in superficial granulating patches and ulcerations, but also in subepithelial collections of leucocytes and soft and hard infiltrations. It is well known, too, that the likelihood of inflammatory complication in the prostate, visiculæ seminales and testes is greatly increased each day the inflammation continues. It would seem, therefore, that except in hyper-acute violent urethritis, which rebel against the use of local applications, it were better to follow the lines laid down by Dr. Frank Glenn of Nashville, and inject from the start, than hazard the health of the patient by adopting the expectant plan of Fornier.

In the early stages of gonorrhea no injected remedy acts more promptly in decreasing the amount of discharge than permanganate of potassium. It is the remedy of choice in the violent beginning stage. It will betray the confidence of anyone who trusts it to permanently remove discharge, but will expeditiously modify the flow in amount and character. It may be used according to the precepts of Janet: in hot solution, 1 to 10,000 to 1 to 2,000, under pressure, or may be introduced cold with the ordinary cone-pointed urethral syringe. The writer has found it convenient, in injecting the permanganate solution according to Janet's teaching, to dispense with the complicated irrigation apparatus and use an ordinary large metallic ear syringe armed with a rounded blunt nozzle. With the ear syringe the amount of pressure exerted may be gauged by the resistance against the operator's thumb pressing the piston. A few trials will convince anyone of the efficacy of hot permanganate solution under pressure in decreasing discharge. In the presence of moisture, permanganate of potassium rapidly gives up the oxygen which it contains, in the form of ozone, and becomes the binoxide of manganese. By reason of this oxidizing power, permanganate of potassium is useful as an antiseptic.

It has never been proven that permanganate of potassium is a specific gonococcicide, but experience teaches that it very soon decreases the discharge. Assuming that the gonorrheal infection is mixed, it is reasonable to suspect that perhaps it is chiefly upon the pus microbes that the influence of potassium permanganate is exerted. At any rate, it has not been found possible to completely cure gonorrhea acuta with the permanganate alone. After two or three days under the use of the potassium permanganate, the discharge cannot be influenced further by this drug. A more powerful remedy is indicated, and here present themselves a great host of vaunted preparations, first of all a legion of silver combinations. Silver citrate, known as itrol, first used in the treatment of wounds by Crede, is a reliable and useful anti-gonorrhoicum. It develops a powerful bactericidal energy. The itrol injections are mild and comparatively painless, and, like silver combinations generally, penetrate the deep submucous tissue layers which have been invaded by the gonococci, without damaging the normal tissue elements. Argentamin, a silver phosphate, and arogonin, a silver casein, are preparations which undoubtedly destroy gonococci; they are, however, not prompt in action, nor radical. Their injection is comparatively painless if used in weak solution, and is not apt to cause complications. Largin, a combination of silver with a paranucleo-protoid product, is the richest in silver of all the anti-gonorrhoica and possesses a higher bactericidal power than any other silver, albuminate, but has proven in the writer's experience too painfully irritating for use in acute gonorrhea.

One of the latest silver proteid combinations suggested for use in the urinary tract is protargol. It is in the form of a fine, light yellow powder, readily soluble in distilled water, the solution being wine-colored and slightly alkaline in reaction. Protargol is not simply a mixture of the proteid and the silver salt, but a genuine chemical combination. It acts as a strong antiseptic in 1½ per cent solution, exerting a marked effect upon the gonococci, and in no wise irritating the tissues. Its mode of action is doubtful, but probably arises, it is stated, from disassociation of the silver salt from the proteid through the action of the bacteria, either from the acids formed by them, or by their attacking the proteid to succumb to its silver partner.

The experience of the writer with the various silver albuminates mentioned has not been altogether satisfactory. The acute discharge is often checked by their use, but apparently only temporarily. They control the discharge about as did the old astringent injections of zinc sulphate, acetate of lead and alum. They seem also to influence the discharge much like the Janet's irrigations. Their bactericidal power is not as great as has been claimed. To be sure, if the disease has been allowed to become sub-acute or chronic, these silver albumen compounds, if used in strong solution, will do as silver nitrate does—bring the diplococci from the deeper layers. But in the acute stage, which we are considering, it is not desired to remove gonococci from the sub-mucous tissues, but rather to prevent their penetrating the mucosa and their deposition in the sub-mucous tissue.

Methlyn blue has been used in acute gonorrhea with some success, and icthyol in 2 or 3 per cent solution is used now and then with good results; likewise a host of other remedies, including alumnol, corrosive sublimate, oxycyanate of mercury, bismuth, hydrastis, and all the older favorites. Some of these are antiseptic, some astringent, and some, bismuth, for example, mechanically occlude the gland ducts, plaster over the mucosa, and thus decrease discharge.

A combination of chemical antiseptics which will prove itself capable of exerting a powerful gonococcidal effect to anyone who will go to the pains of making, during its use, periodic microscopic examinations for gonococci, is the iodide and chloride of zinc mixture originally suggested and promulgated by Dr. Frank Glenn of Nashville. The prescription has obtained a very widespread popularity and is given here for the benefit of those who have missed it elsewhere: Zinci chloridi, 2 grains; zinci iodidi, 4 grains; aquæ distillatæ sterilis, 3 ounces. M. Sig.—Inject after each urination.

Many times, when protargol and the other silver albuminates, icthyol, etc., have failed, the chloride and iodide of zinc prescription has taken the inflammation as if

by the throat and throttled it. Each patient in whose care it had been used after other preparations had been tried has said to me, "It does more good than anything yet." What its modus of killing the bacteria is I do not know. Suffice it to say that it does the work in the most gratifying way. It is the remedy par excellence in acute gonorrhea. It may be used at any stage, and if used in the strength suggested by Dr. Glenn it will not irritate, nor have I known complications to arise from its use.

To summarize, a gonorrheal therapy which meets practical needs is as follows: Rest to the greatest extent possible; dietetic restrictions; avoidance of indulgence in alcoholic beverages (with the possible exception of claret wine); oil of sandalwood (Lehmann), with salol to render the urine bland. Immediately upon the appearance of the discharge, hot permanganate solution, beginning 1 to 10,000 and increasing to 1 to 3,000, injected under moderate pressure with a large blunt-nozzled syringe, a half pint or more at a time, two irrigations daily; and upon the subsidence of the violent discharge, Glenn's prescription of iodide and chloride of zinc, injected under the usual precautions with an ordinary urethral syringe until all symptoms have disappeared.—Ind. Med. Jour.

315 N. Pennsylvania Street.

Preliminary Program of the Illinois State Medical Society.

The forty-ninth annual meeting of the Illinois State Medical Society will be held at Cairo, May 16, 17 and 18. The session promises to be one of unusual interest, both by reason of its location and the excellent program, part of which is already announced, as follows: Southern Illinois will show the members of the society, especially those from Chicago, who seem to be going in droves (judging by the program), that while they may be in the land of Egypt, it is also "the land of milk and honey." The land historical in its memories and traditions, and once the gateway of the great Northwest Territory. The State Medical Society this year will be presided over by Dr. T. J. Pitner of Jacksonville.

Address, Geo. F. Butler, Chicago.

"The Country Doctor," S. C. Hall, Omaha.

"Indigestion—Its Cause, Effects and Results," C. G. Reagin, Du Quoin.

"Intestinal Antisepsis—Physiologic and Therapeutic," W. F. Waugh, Chicago.

"Stomatitis Materna," J. Schneck, Mt. Carmel.

"Variations in Malarial Manifestations," C. D. Center, Quincy.

"Atypical Malaria in Children, With a Case in Point," Rosa Engelman, Chicago.

"Some Aspects of Chronic Bright's Disease," A. R. Elliott, Chicago.

"The Treatment of Uremia," A. R Edwards, Chicago.

"Further Observations of Tube Casts," I. N. Danforth, Chicago.

"Alkalinity of the Blood in Its Physiological and Pathological Relations," J. H. Salisbury, Chicago.

"Agents and Methods Used in Alkaline Medication," J. A. Patten, Chicago.

"The Alkaline Treatment of Rheumatism and Allied Conditions," Ellen H. Heise, Canton.

"Lithemia," A. M. Beale, Moline.

"Erythromelalgia," W. J. Eddy, Shelbyville.

"The X-Ray in the Diagnosis of Brain Lesions," Archibald Church, Chicago.

"A Newer Pathology of Epilepsy," D. R. Brower, Chicago.

"Surgery, then Suggestion in Treatment of Hysteria," T. B. Keyes, Chicago.

"Review of Work Done in the Treatment of Mastoid Disease," N. H. Pierce, Chicago.

"Are We Advancing with the Times?" G. H. Rice, Sandoval.

"Observations in Three Hundred Tonsillectomies," J. Homer Coulter, Chicago.

"Treatment of Tuberculosis," Edwin Klebs, Chicago.

"Thymic Asthma," M. P. Hatfield, Chicago.

"Drug Habits and the Medical Profession," Richard Dewey, Wauwatosa.

"Chronic Ophthalmia—Some Observations as to Its Cause and Treatment. Also the Relation of Chronic Ophthalmia to the Cause of Cataract," L. J. Schifferstein, Effingham.

"Psycho-Physical Culture," W. Xavier Suddith, Chicago.

"Psychology vs. Medicine," J. T. McAnally, Carbondale.

"Direct Massage in the Treatment of Glaucoma," J. A. Pratt, Aurora.

"Diphtheria, with Some Notes on the Modern Serum Therapy," W. F. Watson, Monticello.

"Rational Therapeutics," R. H. Henry, Peotone.

"The Treatment of Scarlet Fever," Herbert S. Worthley, Elwood.

"Diagnosis of Locomotor Ataxia," H. T. Patrick, Chicago.

"Post hoc, propter hoc," W. J. Chenoweth, Decatur.

"The Experience of a Country Doctor with Appendicitis," C. B. Brown, Sycamore.

Address, "The Surgery of the Puerperium," Denslow Lewis, Chicago.

(a) "Alveolar Sarcoma of the Rectum, Operation, Recovery;" (b) Carbbide of Calcium Treatment for Inoperable Carcinoma of the Rectum," E. M. Sutton, Peoria.

"Report of Some Cases in Gall-Bladder Surgery and Their Sequelae," J. E. Allaben, Rockford.

"When Shall We Operate in Country Practice?" C. W. Hall, Kewanee.

"Complete Prolapse of an Ovarian Tumor Through the Anus. Operation, Recovery," J. A. Baughman, Neoga.

"Symphysiotomy, with Report of Two Cases," H. McKennan, Paris.

"The Galvano-Caustic Treatment (Bottini's Operation) of Senile Enlargement of the Prostate," F. Kreissl, Chicago.

"The Indications for and the Advantages of Alexander's Operation," Rachel H. Carr, Chicago.

"Molar Pregnancy," Carl E. Black, Jacksonville.

"Why and When Operate for Appendicitis?" W. F. Grinstead, Cairo.

"Diagnosis of Ectopic Gestation Before Rupture," C. E. Manierre, Chicago.

"Separation of Epiphyses in Relation to the Growth of Bones," F. A. Besley, Chicago.

"Medical Ophthalmoscopy," W. O. Nance," Chicago.

"Stricture of the Lachrymal Duct," H. W. Woodruff, Joliet.

"Common Errors in Diagnosing Follicular Appendicitis as Typhoid Fever. Report of Three Cases," J. L. Higgins, East St. Louis.

"Pancreatitis," F. E. Wallace, Monmouth.

"Premature Detachment of Placenta, with Report of Two Cases," E. B. Gilbert, Geneseo.

"The Influence of Biological Research on Surgery and Medicine." W. J. Fernald, Rantoul.

"Treatment of Dislocations of the Hip in Children," A. C. Wiener, Chicago.

"Eclampsia—Causation and Pathology," C. B. Reed, Chicago.

"Eclampsia," Diagnosis and Clinical Course," F. B. Earle, Chicago.

"Eclampsia—Treatment," J. B. DeLee, Chicago.

"A Report on Recent Extirpations of the Stomach with Experiments on the Dog," E. A. Matthaei, Chicago.

"Operative Treatment in High Degrees of Myopia," Allen T. Haight, Chicago.

"Operation for the Removal of Kidney Stones," A. D. Bevan, Chicago.

"Major Anatomical Weak Points of Surgical Areas, Illustrated by Dissected Specimens," W. T. Eckley, Chicago.

"Radical Operation for Inguinal Hernia," F. A. Jefferson, Chicago.

"What is Eczema?" J. Zeisler, Chicago.

"The Treatment of Accidental Wounds of the Male Urethra," E. J. Senn, Chicago.

"Operative Treatment of Retroflection of the Uterus," W. H. Rumpf, Chicago.

"Malignant Tumors of the Adnexa of the Eye," W. H. Wilder, Chicago.

"Adrenal Tumors of the Kidney," Bayard Holmes, Chicago.

"Uterine Scrapings and Their Microscopical Diagnosis," Maximilian Herzog, Chicago.

"Implantation of the Ureters in the Lower Bowel as Preliminary to Removal of the Bladder," F. H. Martin, Chicago.

"Cyanosis Neonatorum," C. E. Paddock, Chicago.

"The Non-Surgical Treatment of Goitre," D. R. MacMartin," Chicago.

"The High-Forceps Operation," C. S. Bacon, Chicago.

"Stricture of the Anus Due to Orificial Surgery, Successfully Treated by a Plastic Operation," E. C. Dudley, Chicago.

"Goitre," A. I. Bouffleur, Chicago.

"Surgery of the Eye Muscles," J. C. Colburn, Chicago.

"Otomycosis," E. T. Dickerman, Chicago.

"Operative Treatment of Grave's Disease," Karl Doepfner, Chicago.

"Peritoneal Adhesions," T. A. Davis, Chicago.

"The Surgeon's Interest in Rheumatism," F. W. Jay, Chicago.

"The Ambulatory Treatment of Fractures," Chas. D. Lockwood, Chicago.

"Drainage and Washing Out of the Pleura in Empyema. Conflict of Methods and Opinions Among Eminent Surgeons," Edmund Andrews, Chicago.

"Eye Strain and the Diagnosis of Ametropia by the General Practitioner," Cassius D. Wescott, Chicago.

"Adipose Tissue as an Etiologic Factor in Hernia," A. H. Ferguson, Chicago.

"Puerperal Surgery," Bertha Van Housen, Chicago.

"Pelvic Reflexes," Byron Robinson, Chicago.

"Results of Modern Vaginal Operations," Emil Ries, Chicago.

"Report of Four Hundred Operations by My Method for Radical Cure of Hernia," E. Wyllys Andrews, Chicago.

"Tumor of Sclera," C. P. Pinckard, Chisago.

"Resumé of Herniotomies," L. A. Greensfelder, Chicago.

Address, A. R. Reynolds, Chicago.

"Prevalence and Fatality of Alcoholic Inebriety," G. W. Webtser, Chicago.

"Nervous Complications and Medico-Legal Relation of Alcoholic Enebriety," D. R. Brower, Chicago.

"The Medico-Legal Aspect of Bright's Disease," Columbus Barlow, Robinson.

"A Drop of Water," H. C. Fairbrother, East St. Louis.

Ocular Hygiene in Our Public Schools.

Dr. Benjamin F. Rogers, in a recent paper in the "Buffalo Medical Journal," has the following remarks:

In the statistics of our United States educational report of the years 1896-'97, we find that there were in the various schools and colleges nearly 17,000,000 pupils. Today we have in the city of Buffalo more than 72,000 pupils attending school—41,986 of this number in the public schools. About 23 per cent. of all school children have errors of refraction or other ocular troubles. A large percentage suffer from various forms of headache, vertigo and drowsiness—some, it may be observed, are very nervous, some have chorea, some one trouble and some another, nearly all, however, traceable to ocular defects.

A large percentage of children are entered without question as to the state of their vision, due in measure to want of time on the part of the teachers. Educators accept the important trust committed to them not knowing whether the vision of the pupil is such as to endure his work in the schoolroom. Many parents do not know that the vision of their children is defective or may soon become so, and in consequence their health be endangered and their educational progress retarded. With these facts before us, what can and should be done in the way of ocular hygiene in the public schools, yes, all schools? The board of health, the superintendent of education, the teachers, the oculists, all physicians, the press—in fact, the general public should take up this subject and avoid as far as possible injuring the eyes and health of the pupils while carrying on their instruction in our schools. Popular education is demanded. Our first duty is to place specific guardianship over the pupils who enter upon their educational process with defective eyes; a more elastic curriculum should be provided for such pupils. A systematic method of inspection should be adopted and commenced at once in our schools which will be effective in detecting the factors which are detrimental to the eyes. The eyes of each pupil should be examined with the utmost care that the state of refraction may be ascertained and a record kept which, when needed for reference, would be strictly accurate in all statements of fact. In order to keep such a record a blank form should be used for noting all principal points of each case, viz., name, age, sex, color of eyes, whether eyes or comfortable or weak when used, the presence of any form of inflammation, corneal opacity or strasbismus; the sharpness of vision of each eye, as shown by Snellen's or some other standard test type, the presence or absence of astigmatism and the range of accommodation. The eyes of all

children should be tested before admission as pupils to the school. If the vision should prove to be much below the normal, the parents should be advised as to this condition and what should be done. Admission should not be granted until the pupil has sought professional counsel and presents a certificate to the effect. The same rule should apply to children with inflamed eyes, who should not be allowed in the school until a physician's certificate of the non-infectious nature of the disease has been presented. The common wash-basin, towel and comb should be abandoned entirely.

Can the teacher make this non-professional test? Yes. The teacher should be able to determine whether the pupil has normal vision or not. A chart of standard test letters, an astigmatic chart and a card of diamond type for the near point, with simple instructions as to their use, should be placed in each schoolroom. Can all parents of children with defective vision pay for an examination and for glasses? We have a great many pupils in our schools whose parents cannot pay for the examination required at the oculist's office, and who will not for various reasons avail themselves of relief at free institutions for such cases. Quite a number, however, of our school children suffering from headache or eye-strain do come to these institutions, and we know that the oculists who work there day after day, year in and year out, are more than willing to examine all worthy cases. At the Charity Eye and Ear and Throat Hospital scarcely a day passes without several presenting themselves for examination for glasses. Some get their glasses at once, yet I have known others to delay from three to six months, and why? Because their parents could not pay for glasses. It is my judgment that, if there is money in the public crib for a speedway, surely some funds ought to be available to provide glasses for the child with defective vision, who is struggling through the precious hours of youth trying to fit himself for the responsibilities of life.

Clean Surgery in Minor and Emergency Cases.

The "Virginia Medical Semi-Monthly" contains a paper by Dr. Howard of Alexandria, on the importance of clean surgery in minor and emergency cases of the general practitioner.

I do not intend to enter into a discussion or consideration of the various antiseptics or of the rationale of their action, but, accepting authority, and having urged and pleaded for their application, to now suggest some practical hints, by attention to which clean surgery may be obtained in minor work, and, having become a habit in this class of cases, will be assured in such major work as the general practitioner is called upon to perform.

First, then, concerning minor work.

Your hands, though spotless, soft and white, and but just washed and dried on a freshly laundered towel, may be surgically filthy. Adopt some one of the various accepted methods for cleansing them, as bichloride, permanganate and oxalic acid, etc., but don't dry them afterward on a non-sterile towel, and don't cleanse the nails with a knife which may not be clean, any more than you have scrubbed them with a brush unclean from its last use.

Remember that "rinsing" in bichloride is a farce—laughable, but that it is criminal.

Don't grudge the time necessary to prepare to do "clean" work, as in the preparation of your "tools," viz.: instruments, needles, sutures, solutions, applications and dressings.

All instruments should be sterilized twice after each operation and before. Boiling in soda solution (℥jss—Oij) is as good a method as you can use. Boil for five minutes. If you cannot boil an instrument, passing through any flame will sterilize it; fresh soot is not unclean surgically.

Having cleaned your instruments and hands, do not soil them by contact with an unclean site of operation; this should be as carefully cleansed as your hands, by scrubbing, and the use of some accepted antiseptic. Remember, bichloride will not act in the presence of grease, and that alcohol or ether will remove that substance.

Hands, instruments and sight of operation being now clean, viz., sterile, do not soil them by contact with immaculate towels, bed clothing, or portions of your own or patient's body not prepared for operation; let not that which is clean touch anything that is unclean; use only sterilized water for irrigation in nonseptic cases.

Rely more on amount of the irrigation fluid used in septic cases—that is, on its mechanical antiseptic action rather than its chemical properties, and aid its thorough application by force of steam and, where feasible, by "rubbing it in." Don't irrigate from a fountain syringe nozzle which has not been boiled since last used, and don't hang nozzle in mouth of bag when not in use; if, by mistake, you have done this in a septic case, don't use bag again until sterilized.

Don't use a pocket case which you cannot sterilize; the leather velvet-lined case is an "omnium gatherum microbium." Don't use an instrument having a wooden handle until you have removed the wood; the best handles are flat with square edges.

Don't be stingy with the number of sutures, nor of your patient's patience in placing them; consider that you are to be judged by cosmetic effect.

Don't use adhesive strips, or, if at all, not so as to touch wound; they are always of doubtful cleanliness. Don't use iodoform or other dusting powder that you have not sterilized by "cooking," and don't consider expense in its use.

Don't be stingy with your gauze and absorbent; of the former, plain as good as any, but don't rely on the reputation of the house that bottled or boxed it—"cook" it yourself.

Don't think that absorbent from pound package is made clean for swabs by dipping in bichloride. Sterilize them beforehand by boiling or cooking.

Don't consider any wound too small for the entrance of the death-bearing agencies, or that slight pain and inflammation do not matter; they are infallible witnesses of carelessness and disregard of duty.

Don't dress your wound under five days unless throbbing pain, fever or redness be present, or unless you have used drainage, which do only when you cannot be sure of your wound being clean.

Don't be ashamed of being considered by any as finicky; quiet attention to detail need not involve fussiness. Consciousness of duty performed will well repay for the sneer that you are making a big show; for a small, neat scar, soon to disappear, and a painless result, will in time convince the layman that it is not so much what you have done as the way you have done it.

I have finished with Don'ts. I have but one Do. Do be clean. Asepticism, clean surgery, to be effective, must be perfect, or it is useless. It is only to be attained by absolute and minute attention to detail. One streptococcus pyogenes is only 0.7 mm. in diameter, is autogenous, and will, if applied with suitable pabulum and conditions, beget in twenty-four hours a family which would fill the Atlantic.

A New Operation for Hernia.

By Emory Lamphear, M. D., St. Louis, Mo.

Having had three patients with whom complete atrophy of the testicle followed the Bassini operation for inguinal hernia, and some recurrences when the Czerny and the Macewan methods were adopted, I, some three years ago, decided to try a plan which I felt certain would prove successful, since by it total obliteration of the inguinal canal would be obtained. Experimentally the chief objection to the plan has been the reluctance of patients to accept the proposed procedure; so that thus far I have succeeded in securing but three cases. These have, thus far, been entirely satisfactory in their history subsequent to the operation.

The method is as follows: A large flap is turned back, exposing the hernial sac and the inguinal canal in their entirety. The sac is then carefully dissected out, opened and contents reduced. At this stage the opening into the abdomen is closed with gauze and the spermatic cord and testicle lifted out of their natural position and enveloped in iodoform gauze. From the hernial sac (parietal peritoneum) there is now made a pouch, or artificial tunica vaginalis testis, into which the testicle and cord are passed and inclosed with catgut sutures in such way that not too much pressure is possible upon the cord; the whole pushed into the abdominal cavity and anchored by a few catgut sutures. The cut in the peritoneum is next closed; next the opening into the scrotum sutured; then each muscular layer of the abdominal wall carefully sutured, completely obliterating the canal—just as is done in operating for inguinal hernia in the female.

That the ultimate fate of the buried testicle is atrophy I cannot dispute, as no opportunity has yet presented for post-mortem examination; that it is possible I can-

not deny. From a surgical standpoint the chief objection to this operation is that a suppurative orchitis or epididymitis might necessitate abdominal section; but suppurative inflammation of these structures is so comparatively rare that this danger can scarcely outweigh the advantages to be gained. Thus far only the most gratifying results have been noted.

"Secondary" Puerperal Hemorrhage.

Severe bleeding is sometimes seen sufficiently long after labor to justify the term "Secondary" in describing it. * * * This bleeding may be concealed, or external (Routh). In the former instance the cervix is closed by a clot which prevents the escape of blood; in the latter it flows freely from the vagina. Sudden relaxation of the uterus, from nervous shock, is the principal cause. Partial loosening of a piece of retained placenta, and displacement of thrombi from the uterine sinuses, by exertion, or the action of ergot, are other causes; also distention of the bladder, the absorption of retained fecal matter, and backard displacements of the uterus, have each been assigned as causative factors of this character of bleeding. Secondary hemorrhage comes on suddenly and without warning. The uterus is soft and relaxed, sometimes filled with clots, and often displaced backward in the abdomen. On palpating its hard outline is lacking, and often cannot be felt. The prevention of such bleeding lies in the thorough study of each pregnant patient. Where such a woman is evidently ill-nourished, her blood should be examined and iron or arsenic in some form administered. Toxæmic anæmia and insufficient nourishment should be properly met. During labor the obstetrician must keep in mind the danger of uterine relaxation which follows prolonged labor, and which sometimes accompanies the improper use of certain uterine stimulants. Clinical experience proves, without a doubt, that the giving of ergot during labor predisposes to secondary hemorrhage. Deficient uterine contraction is best stimulated by quinia, or alcohol, and uterine force is best supplemented by manual pressure or traction by forceps. Haste in expressing the placenta is a common cause of hemorrhage. So long as the patient does not bleed the placenta may be left in the uterus for from twenty minutes to half an hour. with positive advantage. It will gradually become separate and ready for expulsion Should it become necessary to deliver the placenta Crédé's method is unquestionably the safest and best. Where the hand must be introduced, the placenta must be removed very gradually, and the inner surface of the womb thoroughly examined by touch, to be sure that no portion remains.

After labor, when the birth has been exhausting and delayed, secondary hemorrhage should be feared, even if the patient does well immediately after labor. Following delivery, the uterus should be well douched with hot sterile water, and moderately tamponed with sterile antiseptic gauze. The vagina may be also filled, but not overdistended. The uterus should be anteverted and, if possible, anteflexed by the hand of the physician. The fundus being carried above the promontory of the sacrum, and bent strongly forward, it should be maintained in this position by the hand of the nurse or the doctor until it remains well contracted. In the presence of secondary hemorrhage the uterus should be emptied by the sterile hand, and after it is clean and empty it should be tamponed with clean antiseptic gauze, and carried into proper position, the fundus above the brim of the pelvis, and directed strongly forward. Strychnia by injection and ergot by the mouth will usually complete the treatment. —Dr. E. P. Davis, in "Medical News."

Medical Men to Avoid.

The one who has acute exacerbations of insanity when exposed to any new fad. The one who is always successful with all his difficult operations. The one who always sees hundreds of cases of a rare disease. The one who can always match your case and improve on your treatment. The one who always finds you have omitted something in the examination of your case. The one who thinks he can talk well and is always ready to discuss any paper of the evening. The one who is always the first to do the new operation. The one who is in a chronic fear of being anticipated in his important discoveries. The one who in consultation feels it his conscientious duty to explain to the patient why he differs from the attending physician.—Pediatrics.

ITEMS.

The Paris Academy of Medicine is to have an elegant new home during the coming year.

The price of medicine in Prussia is regulated by the state, a new price list being published every year.

Dr. Petri of the imperial health office in Berlin has found tubercle bacilli in 32.2 per cent of 102 samples of butter examined.

The Ensworth Medical College of St. Joseph, Mo., held its annual commencement on March 14. The graduating class numbered fourteen.

Dr. E. R. Travers of Amboy, Ill., died at his home in that place on the 12th inst. from apoplexy. He was sixty-two years old at the time of his death.

Dr. George J. Englemann of Boston has been appointed a delegate to the International Medical Congress, which meets next August in Amsterdam, Holland.

Dr. Chas. F. Taylor, well known as one of the most successful and inventive of American orthopedists, died last month in California, where he had gone for a much-needed rest.

At the meeting of the executive board of this association, held in St. Louis, March 3, Richmond, Va., was selected as the next place of meeting of the association, and May 31 to June 2, the dates.

The annual meeting of the American Surgical Association will be held in Chicago, May 31, June 1 and 2, 1899. Dr. W. W. Keen, Philadelphia, is president, Dr. H. L. Burrell, Boston, secretary.

A bill has been presented to the New York state legislature looking toward the establishment in the Adirondacks of a state hospital for the care of tubercular patients Members of the state medical society are bending every effort for the passage of the bill.

Granting that it is true that all things that taste well are unwholesome, surely it is a mystery why they should be unwholesome Are we constructed with such perverse tastes that we crave only the things which do us harm?

Willard Avery Heacock, M. D., College Physicians and Surgeons, New York. 1892, died at his home in New York City, February 24, aged 32 years. He contracted diphtheria from a patient ten days preceding his own death.

A prize of three hundred crowns has been established by the Vienna Medical Club, to be given in honor of the late Franz Mueller, who died from the plague contracted in the laboratory while doing bacteriological work.

The Philadelphia board of health, after an existence of one hundred years, has been abolished by an act of the legislature and will be succeeded by a bureau of health, under the charge of a chief officer to be appointed by the mayor.

Col. Oliver H. Payne has presented to the medical department of Cornell University a new college building to cost half a million dollars. Plans have already been made and accepted for the structure and work will be at once started.

Statistics have been taken in France of the spread of the habit of smoking, and it has been discovered that within the last year the cigaret, and, even astonishing as it may appear, the pipe has found an enormous increase in their female votaries.

In using the static breeze with the ordinary static crown, the physician should be very careful that the patient has no celluloid hairpins in the head, as they are very liable to ignite from the electricity and produce unpleasant or even serious consequences.

Lehmann, in a recent copy of "Revue Medicale," claims that the symptom of the patient opening the eyes and attempting to maintain them open, during anesthesia, is a premonitory sign of the greatest importance and one that should always be looked upon with suspicion.

Dr. Simon Flexner, recently of Baltimore, who resigned the chair of Pathological Anatomy in Johns Hopkins to accept a similar position in the University of Pennsylvania, has started for Manila and the Philippines in order to make a study of the diseases prevalent in that country.

The Physicians' Club of Chicago held its regular meeting March 27 at the Sherman House under the presidency of Dr. E. J. Doering. Hospital Ethics was the subject of discussion, and was thoroughly elaborated by Drs. Herrick, Moorhead, Burwash, Fenger, Van Hook, Ridlon, Burry and others.

Some commotion was recently caused by the threatened outbreak of scarlet fever among the students in the dormitories of Northwestern University at Evanston, Ill. A rigid quarantine for a few days gave the authorities control of the situation, and what might have been a serious condition was averted.

Rumor has it that two of the well-known Chicago medical journals have combined their interests and will henceforth be issued as one. The new publication will be under the direction and editorial management, it is said, of Dr. Geo. F. Butler. Further assurance of its success is unnecessary to those acquainted with Dr. Butler.

The Methodists of Chicago expect to replace the present Wesley Hospital with a new building to cost $200,000. Of this sum $150,000 has already been pledged. Trustees of Michael Reese Hospital, Chicago, have decided to expend $50,000 in improvements. This hospital is also the recipient of an automobile ambulance, the gift of five of Chicago's business men.

The leading medical journal of Cuba complains that many foreigners have come to Havana since the occupation of the island by the United States forces and begun the practice of medicine without let or hindrance. Under the Spanish rule, in order to practice legally in Cuba, it was necessary to hold a diploma of the University of Havana, vised by the proper authority of the district.

The Physicians' Municipal League is the name of an organization recently organized by the medical fraternity of Cleveland, Ohio. Its ostensible object is to see that honest men are elected to the municipal offices. If the fraternity of Chicago would show a like interest in the welfare of the city there would be less notoriety concerning its dirty streets and other forms of municipal corruption.

Senator Rollins of Missouri presented an unusual bill to that body of legislators recently. It provided that any physician who advertised in any way in any newspaper or periodical might be fined from $100 to $1,000, with imprisonment. What would certain well-known members of the Chicago profession do if such means of obtaining advertising, either free or paid for, was cut off from them so abruptly?

Cornelius A. Logan, M. D., Chicago, died in Los Angeles, Cal., January 30. He was from a prominent family, his father being the celebrated Cornelius Logan who wrote "Solon Shingle" and several other popular comedies. His two sisters were long prominent and he was also a cousin of General John A. Logan. Dr. Logan was born in Deerfield, Mass., Aug. 24, 1832. By President Grant he was appointed Minister to Chili, where he remained for several years and was again appointed to the same mission by President Garfield.

Dr. George Henry Rohé of Baltimore, Md., died suddenly in New Orleans, February 6. Dr. Rohé was born in 1851, began the study of medicine in 1867, and was graduated from the School of Medicine, University of Maryland, in 1873. He afterward studied dermatology and then spent several years in travel, returning to engage in general practice in Baltimore, when he was appointed superintendent of the Maryland Hospital for the Insane at Catonsville in 1891. In 1885 the Doctor was active assistant surgeon in the United States army, and from 1882 was connected with the College of Physicians and Surgeons, Baltimore. At the time of his death he was president of the American Public Health Association and a member of numerous American and foreign societies.

MODERN THERAPY.

I have used Sanmetto in my own case, i. e., general naso-pharyngeal and bronchial catarrh, with the invariable complication in all such cases, gastro-intestinal catarrh, with the very best results, and I frequently prescribe it in such cases with the most satisfactory results. I use it in all cases of hypertrophy of the prostate, dysuria, difficult and painful micturition, and such as need to have the genital tract braced up, with the very best results.

J. B. DUNCAN, M. D.
Bedford, Ind.

We are in receipt of a beautiful lithographed pamphlet from the ever enterprising Mr. Henry of Louisville, who in a letter informs us of his now being the principal owner in the famous French Lick Springs of Indiana, capacity 500 guests. The celebrated spa, Phito, America's aperient, he will introduce at once through the medical press as the most saline hydrogogue eliminant and intestinal antiseptic akin to Carlsbad, without the accompanying nausea and thirst.

Throughout the Mississippi Valley no preparation has been more popular with the profession than the well-known Syrup Roborans, long since presented to the medical profession by the Arthur Peter Company of Louisville. This is a compound syrup of hypophosphites that is uniform and reliable, agreeable to the patient and sure to produce good results. For disturbed digestion Peter's Peptic Essence has been a sterling helper for many years. The doctor cannot make a mistake who prescribes for anyone suffering from impaired digestion, from infancy to old age, Peter's Peptic Essence, in doses of from one to two or three teaspoonfuls with meals.

WHEN PAIN IS DOMINANT.

A number of years ago, in a conversation with my old friend, Professor Stucky of Louisville, he told me that he used far less morphine now than formerly and that he was able to combat the factor of pain as successfully in the majority of cases without it as he did with it. He urged me to give antikamnia to my patients who had neuralgia, la grippe, rheumatism, locomotor ataxia and dysmenorrhea, instead of using morphine. I acted on his suggestion and have been able to relieve this class of patients as effectively and without producing the evils that result from the exhibition of opium or its alkaloids. Antikamnia possesses anodyne, antipyretic and analgesic virtues and has been thoroughly tried by able therapeutists. Prof. Shoemaker of Philadelphia has found it very valuable in rheumatism, migraine or neuralgic headache and many other nervous affections.

PERFECT RETINOSCOPY.

Of all methods of determining errors of refraction in the human eye, retinoscopy is the most in favor throughout the scientific world, because it offers certain advantages over all other modes of examination. It enables the oculist to make examinations without asking questions. When the point of reversal is accurately ascertained, the finding is mathematical. Refractive errors can be as easily corrected in children, foreigners and illiterate people as in the most intelligent, for there is no necessity of asking or answering a single question. And yet with all the favor in which retinoscopy stands, it has its imperfections. During the heated term the oculist and patient are required to be in the dark room, which is close and fatiguing, especially to the operator. Distances are oftentimes only approximated, and the light is a serious problem, and its distance from the mirror is constantly changing with the movements of the operator. Such findings always necessitate a verfication afterward by the subjective method, for the dark room work is most always largely a matter of approximation and anything like accuracy can only be arrived at by the most expert.

The Geneva Optical Company of Chicago has taken out patents on an instrument which obviates all of the above objectionable features of the dark room and offers new advantages that are attained by this instrument for the first time in the history of the science of optics. The examination can be made in any light. Dur-

ing the examination the patient can be looking out of the open window in the summer. The distance between the mirror and the patient's eye is absolute, as also is the immediate source of light. The correcting lens which finds the point of reversal is the correcting lens of the patient without any deduction being made. The "fundus illumination" and its shadow are much more clearly defined than in the dark room. Astigmatic bands can be more distinctly seen. Eyes with contracted pupils can be examined without use of midriatics much more accurately than in the dark room by the old methods. Latent hyperopia can be detected more accurately than by any other method without the use of midriatics.

THE PARIS EXPOSITION.

Paris will soon again be the attraction of the world. Parties are already being made up to visit the Exposition which is to be held there next year, and it will interest not a few of our readers to know that an American boarding-house, or, as the French call it, a "pension," is to be started for the special benefit of those who prefer staying where straight American is spoken, and where, moreover, they will have opportunities of meeting other folks from their own country. It will be conducted by Professor Wisner and his wife, who, although natives of France, have resided for a considerable time in New York City and are well acquainted with American ways and customs. They have taken a mansion in the neighborhood of the Bois de Boulogne and they intend fitting it up in such a manner as to insure that their guests will have a comfortable home during their residence in the gay capital. The professor and his wife are well known in medical circles in New York, and having arranged to accommodate a number of prominent doctors and their families, they hope to make their house the American headquarters for the profession. Before leaving for Paris, as he intends doing shortly, Professor Wisner would be pleased to hear from other prospective guests. For the present he may be addressed at No. 605 Madison Avenue, New York City.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

The date of the next meeting of this association, to be held in Chicago, has been changed from September 12 to 15 to October 3 to 6 inclusive. The autumn fête, to be known as the American Festival, will be held in Chicago, beginning September 25 and ending October 9, with the laying of the cornerstone of the Federal building, when the president and the cabinet will be in the city. During this time the railroad fare to Chicago from all points will be a flat one-fare rate for the round trip, without the necessity of certificates or signatures. The limit of the tickets is so long that a protracted stay can be made in Chicago in order to take advantage of the clinical facilities of the meeting as well as to enjoy the added attractions of the festival.

Chairman of the committee of arrangements, Dr. Moyer, has the plans well in hand and much of the necessary detail has already been completed. Everything possible is being done to make the meeting the most noted one in the history of the society.

At a meeting held in the mayor's office, Philadelphia, on March 17, of the committee to prepare a memorial to the late Dr. William Pepper, it was decided to erect a bronze statue of Dr. Pepper on the City Hall plaza, and committees were appointed to carry out the project.

JOHN RANSOM HAMILL, M. D.

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Headache as Viewed from an Oculist's Standpoint.

By DR. JNO. RANSOM HAMILL,
Recently Professor of Ophthalmology in Chicago Clinical School.

[A lecture to the class in attendance at the Clinical School.]

Headache is a symptom of very many morbid conditions and often cannot be regarded in itself as an independent malady. It is, however, a symptom, the relief of which is sought for quite as often as any other known symptom. Every physician has learned to theorize concerning the probable cause of headache. He usually reasons from the location: If on the summit, perhaps pelvic or intestinal, and then looks for a lesion producing it. If in occipital region, he looks for a kidney or possibly a stomach lesion producing it. Frontal headache, so frequently the concomitant of general diseases, will hardly bear a classification. Toxemic headaches are usually referable to the frontal region; such headaches usually accompany the various fevers and is dull in character, but may be severe. They are also present in diabetes, lead poisoning, chronic alcoholicism, etc. Deep seated pain is quite suggestive of an intracranial lesion producing it.

Congestive headaches are often produced by mechanical hindrance to the return of blood from the head, and are also generally frontal. Headache from gastric disturbance is usually located in the occipital region and may be due to the absorption of toxic material, or, as Uncle Allen used to say, "To his 3's," i. e., condition of part constitution of the blood and condition of the nervous system.

Neuralgic headaches follow the course of the nerves, are shooting in character and occasional tender points are found along the course of the particular nerve.

Anemic headaches are generally frontal, may be general; ophthalmoscopic examination reveals pale choroid and thin retinal vessels. These headaches are often relieved by recumbent posture.

Congestive headaches are increased by stopping or mechanical obstruction. Pressure headaches argue mental fatigue. Supra-orbital headaches often accompany refractive errors diagnosed by the ophthalmoscope, or possibly due to muscle insufficiency. This leads us into one of the causes oculists find for headache, the subject-matter about which much has been written and very diverse opinions set forth.

We diagnose a muscle error by observing whether or not there is perfect parallelism of the visual axes, and whether or not there be diplopia. If there is diplopia, note whether it is harmonious (that is, the image of each eye on its corresponding side) or heteronymous (the image of the right eye being on the left side). The former condition argues covergence of the visual axes, while the latter argues divergence. Note whether the distance between the images widens as you approach toward either side. In paralysis or paresis the distance between the images widens as the eyes turn toward the affected muscle.

The nomenclature of muscle deviations is not well fixed. However, in general, I believe it is conceded that orthophoria means a condition in which there is perfect parallelism of the visual axes, heterophoria meaning any deviation from this normal condition. Esophoria is a condition in which the eyes turn slightly inward, and the homonymous images require a prism to develop them, differing only from convergens in that in convergens the homonymous images are always present without the necessity of a prism to develop them, simply a difference in degree, esophoria leaving off when convergens begins.

We diagnose esophoria by placing a 4 degree prism, or stronger, over either eye base, either up or down, producing vertical diplopia, and noting whether the image of the right eye is on the right side. If it is on right side of the vertical, we have esophoria, and the amount of esophoria is measured by the strength of prism necessary to bring back the images to vertical, the

prism placed horizontally with apex toward the nose.

By this means we learn that we have esophoria, and now what is the matter with the patient? There is this the matter: There is a disproportion in the relative strength of the two muscles, internal and external rectus. For the healthy performance of the function of the eye, that of seeing, there should be independent of the refractive error a proportionate strength of 1 to 5 between the internal and external rectus, the internal rectus being five times the stronger. The strength of the internal rectus (having to do with convergence) is tested by the greatest degree of prism placed horizontally, apex toward the tested muscle, with which binocular single vision at 20 feet is maintained. This indicates the adductive power, which is usually represented by a 25 to 60 degree prism, while abduction or the relative strength of the external rectus represents a 5 to 12 degree prism placed horizontally with apex toward this special muscle. Allow me to explain briefly my modus operandi to be pursued in correcting these conditions.

I do not believe in developing latent heterophorias. In a case of esophoria the adduction is disproportionately stronger than the abduction, not that the internal rectus is stronger than nature would have it, but that the external rectus is weaker, which allows the eyes to turn in slightly.

I do not believe in prescribing a prism that will bring back the images and allow the patient to wear it, but I do believe in a systematic course of orthoptic training. If, for instance, a patient has 3 degrees of esophoria and has an abduction of 3 degrees with an adduction of 30 degrees, I have this patient practice for 15 minutes at a sitting with prisms increased in numerical order until the greatest one possible is overcome, with apex placed toward the affected muscle, thus strengthening the power of abductions. Each two or three days a larger sized prism is overcome until the patient can get binocular single vision with a 6 or 8 degree prism placed horizontally with apex toward the external rectus. This accomplished, your esophoria and your headaches disappear.

Take, if you please, this same patient with 3 degrees of esophoria, and place 1½ degree prisms over each eye, bases out, allowing the patient to wear this for six months, and instead of 3 degrees of esophoria you will find that the patient has perhaps 5 or 6 degrees, and instead the 3 degrees of abduction probably now reduced to 2 degrees. Instead of calling this so many units of latent esophoria by this means developed I call it so much more weakening of the external rectus. My patient, number one, who practiced the orthoptic training, is entirely relieved, while patient number two has more esophoria than when first treated. I am aware that the patient will find great comfort with the prisms so arranged, bases out 1½ degrees over each optic; however, these prisms do the work the muscle should do, and as a result the external rectus weakens and even atrophies, these rest prisms thereby doing more harm than good.

The other heterophorias, as exphoria, hyperphoria, cataphoria, etc., are treated in a similar manner by systematic orthoptic training. If the heterophoria is considerable and a systematic training fails to strengthen the weakened muscle, then operative measures should be resorted to.

I have proven to my own satisfaction in numerous cases that much good can be accomplished if the patient can be induced to careful follow these instructions, and in very many cases the function of the weakened muscle may be completely restored by this systematic course of orthoptic training without the necessity of operative procedure.

I am satisfied that these heterophorias are the cause of as much headache as any other factor and are seldom relieved. Too often glasses are prescribed for a slight amount of hypermetropia, say ¼ D., when, as a matter of fact, the patient is suffering from a muscle insufficiency and needs a course in orthoptic training.

Very many diseased lesions of the eyeball and eyelids cause headaches, such as iritis, cycletes, glaucoma, keratitis, conjunctivitis or blephoritis, the last, however, often due to refractive error if marginal. Acute kidney lesions, brain lesions and heart lesions may cause headaches and a diagnosis is often made by an ophthalmoscopic examination of the fundus occuli.

Des Moines, Ia.

The Influence of Biological Research on Surgery and Medicine.*

By W. J. FERNALD, M. D., Rantoul, Ill.

Every man who takes up the study of medicine from the highest motive—that of love for the work—has indulged in the vague dream that it is an exact science, and that by mastering the principles underlying it he may not only bring relief to those who suffer, but achieve a name for himself in the scientific world.

But no sooner has he begun its study than he runs counter to the universal opinion of the profession that it is not an exact science and never can be; that it is indeed less a science than an art, while further investigation shows that, until recently at least, medical literature was but a vast collection of empirical truths, supremely important for the future of the science, but from most of which no law for his invariable guidance had as yet been deduced. Therapeutic nihilism ran riot through every page of that literature, while books were filled with countless medical facts, but were destitute of medical principles.

The conscientious student at this stage then is appalled. Each altruistic hope fades into the mist of acknowledged nihilism, and he realizes that his success is not a question of the application of definite laws, but a question of judgment, without time, in many cases, to form correct judgment, that any hour of the future may bring him a moment pregnant with the fate of a human life and a human soul, and that that life, with all its possibilities, depends upon the correctness of his judgment of the relative importance of a multitude of empirical truths directly and indirectly bearing on that case, instead of the application of well-known scientific laws.

And the earnest student of medicine as a science turns again to the dream of his student days, asking himself whether the Creator of the universe, who has hung the stars in the heavens by laws easily comprehensible by the mind of man; who has wrapped the laws of the physical universe in the atom and molecule so loosely that the exact science of chemistry has sprung from their decomposition; who has sent the carpenter of Galilee for the salvation of man's spiritual nature, has left him on his physical side destitute of laws comprehensible by his intelligence, by the knowledge of which he may escape the disease and pain which their ignorant violation has brought upon him.

The affirmative answer to the question as to whether medicine will ever be an exact science is found in the startling advance in medical knowledge in the closing half of the nineteenth century, and the immensity of the efforts put forth still to advance that progress. The specific discoveries of the past century, such as anesthesia, the cellular structure of the tissues and the microbic theory, has revolutionized medicine and surgery. The discoveries made in laboratories have worked kaleidoscopic changes in professional opinion, and at the same time have lengthened the span of life, reduced materially the suffering of the race and introduced the apparently miraculous into modern science. For the apparently impossible thing of yesterday has become, not only the possible, but the common thing of to-day.

But if the progress of surgery and medicine in the way of specific achievement has been great enough to astonish him who contemplates it, its progress along general and fundamental lines has been immeasurably greater. For the greatest specific discoveries marking the century has more than a specific importance—is more than the establishment of an empirical truth; each has revealed its foundation in the transcendental truth, "The unity of truth and the universality of law." Each specific discovery that has profoundly modified medicine and surgery has been an application of this universal law.

The transition from the specific and empirical to the fundamental, in professional knowledge, has been coincident with the transition from the specific and incidental to the fundamental in professional study, and marks the evolution of professional thought.

The first idea of medicine was no doubt a grossly anatomical one. A pain experienced was referred to some anatomical region as an arm or a leg. The next idea was, it may be, a therapeutic one calculated to relieve that pain. Perhaps the third was a physiological one originating in man's curiosity concerning the phenomena of taking food and excreting waste products.

* Read before the Illinois State Medical Society, at Cairo, May 17th, 1899.

Out of these extremely crude primitive ideas was developed, in the course of years, the accurate knowledge of anatomy, physiology and materia medica we now possess. The fourth fundamental branch of medical study, chemistry, was not added until that science was found to be inextricably entangled with the complete appreciation of physiological function. Here for many years rested the foundation of medical education. These sciences were and are the sine qua non of a medical education.

But, important as they were, they did not answer the questions of etiology, pathology or treatment. And they never can answer them alone. Every anatomical truth having one end attached in a muscle, bone or nerve, was only half a truth; one end was left unattached; every physiological truth with its determined end springing from some organ and its function was but half a truth; the other end made no connection. It was so with every chemical truth, and the facts of materia medica. The investigations hitherto made only illustrated the truth that the thing of least importance had been shown; that the unconnected ends of established truths told the story of the final truth for which the scientists of the ages had searched in vain.

That ultimate truth, the demonstration of whose laws was found to be the latest problem presented to man for solution, was the truth underlying the greatest question given to man for his study—the question of Life and the Law of its manifestations.

Taking up the unconnected ends of scientific truths hitherto made known, those threads were woven by modern scientists into the sublimest of all the sciences, biology, or the laws of life. In this latest view of demonstrable truth culminated not only the entrancing beauty of the highest truths, but also the intense practicability of the highest truth as related not only to our own, but to universal science. And to-day the progress of medicine is the progress of biological knowledge. Into the warp and woof of that science has been woven the worth of the world's greatest thinkers. In its development Schleiden, Huxley, Tyndal, Spencer, Jenner, Pasteur, Lister, Cohnheim, Virchow and others as great have written their names by the side of Kepler, Newton and La Place.

For it is no dream, nor a fanciful figure of speech, that these men have, in addition to the effect of their labors on general science, taken medicine from the realm of empirical art and placed it, at least partially, in the realm of the exact sciences, and, better still, have given us the hope that the whole subject will in time become an exact science.

Previous to Schleiden's day there was no exact law laid down in medicine. But with his discovery of the cellular structure of plants he simultaneously laid the foundation of biological science and exactitude in one department of surgery. That biological discovery, made by a botanist, made possible the science of modern histology and cellular pathology.

In the karyokinetic changes of the cell is written the story of the regeneration and repair of wounds. Of immeasurably greater importance is the truth that the story of the cell is the story in miniature of all organic life whatsoever. This histological idea in connection with another biological truth, that of the development of the embryo in three layers, and that cells reproduce themselves in kind, formed the basis of Cohnheim's theory of tumor genesis, and in Cohnheim's law broke the first rays of the dawn of exactitude in medicine. For microscopic examination of tumor tissue makes exactitude of diagnosis in tumors the rule. And the knowledge gained from the behavior of these cells makes the law of treatment so exact that the early removal of a malignant growth, before metastatic infection has occurred, is the only treatment considered. The treatment of benign growths is equally clear and exact.

But if the exact diagnosis of a malignant growth rendered an early operation imperative, the next biological discovery extended the possibility of a successful operation almost beyond the bounds of belief by bringing the operation wound into the domain of exact science. This was the demonstration of the agency of microscopic organisms as the cause of wound complications. This phenomenon of biology was the reverse of the constructive force residing in Schleiden's cell. It was a revelation to us that the battle of life is not wholly between the individuals of the organic world we can see and feel, but that the body, being a form compounded of microscopic pieces of protoplasm, was thereby rendered

peculiarly susceptible to the attacks of antagonistic micro-organisms.

Nothing teaches us greater respect for the infinitely small than the effects following the discovery of pathogenic micro-organisms and the demonstration of the law of their action. From that day surgeons ordered their professional lives strictly with reference to bacteria; hospitals were remodeled, and new ones built along microbic lines, and the whole theory and practice of surgery was revolutionized with a revolution the magnitude of which was never surpassed in any branch of science. Wound treatment was transformed as by the touch of a magician's wand, and that which was before an empirical art became a science as exact as astronomy. For, of an aseptic wound ideally treated, union by first intention can be as accurately foretold as can the movements of the heavenly bodies.

The first evidence of the transformation of an empirical into an exact science always occurs in some branch of that science. Following that law of transformation exact principles first appeared in surgery as a branch of the general science of medicine. But fundamental truths traverse stem as well as branch, and the fundamental truth, above spoken of, modified our conception of medicine through the discovery that the etiological factor of many diseases is micro-organic in character.

All philosophical deductions from scientific truths derive their authority from the "Unity of Truth and the Universality of Law." From this postulate arises the explanation of the fact that a truth of to-day is a truth for all the past and all the future, and that a philosophical deduction from known truths, correctly made, will be illustrated anew by every demonstrated truth related to it.

Many years ago Herbert Spencer taught in his work on "Philosophical Biology" that the external surface of the body did not terminate, as we commonly suppose, at the muco-cutaneous junction of the lips and anus, but that, the skin and mucous membrane being continuous, the mucous membrane in all its indentations and involutions was, physically speaking, as much an external surface as the skin. At the time this statement was made it had little relation to the subject of medicine specifically considered. It was merely a physical fact related to the subject of nutrition and excretion. But with the discovery of the microbic nature of infection, taken together with the fact that all microbes were external to the body, and could only gain access to the tissues by a solution of the continuity of the external covering, the accurate determination of the external limiting membrane became a matter of great importance, for it marked the dividing line between infectious and non-infectious diseases, and consequently the method of treatment. With reference to the microbic theory, Spencer's definition of the external surface of the body was found to be not only a theoretical but a practical verity, for the vast majority of diseases affecting the surface of the body, as here defined, have since been found to be of microbic origin.

The demonstration of the truth that pathogenic bacteria of divers kinds are the underlying etiological factors, alike in wound complications and infectious diseases, brings the treatment of these diverse conditions under one law, for, broadly speaking, the problem presented for solution in either case is the limitation of one form of life without destruction of the other. In the matter of wound infections the solution of the problem was easy. The disease being the product of the conflict between vital forces, the limited surface for absorption made the use of violent poisons destructive of pathogenic organisms possible with safety to the patient. But in infectious diseases, involving especially mucous surfaces, those poisonous antiseptics were inadmissible in a strength sufficient to destroy the bacteria. For the extreme facility of absorption characterizing mucous surfaces rendered toxic antiseptics equally toxic to the patient. But though the problem as presented in general medicine is more difficult of solution than as presented in surgery, a final solution does not seem impossible. The etiological factors being biological, a biological solution may be looked for, and a remote indication of the method of it may be found alike in philosophical and scientific biology. All over the earth the problem of the limitation of particular forms of life to particular habitats is accomplished without the employment of gross antiseptic clubs. Just a slight change in environment draws an invisible line over which the hardiest races cannot pass and live. If this seems very

remote we have a more practical exemplification of the same principle in scientific medicine. No microbe is more common nor more virulent than the tubercle bacillus. And yet physiological resistance, aided by early diagnosis and prompt change of climate, has relieved many cases of tuberculosis without the intervention of any toxic antiseptic whatsoever. That this is still not the only way is demonstrated by the marvelous advance in the therapeusis of that most deadly and intractable of all the microbic diseases, diphtheria, by the use of antitoxine, while the unknown biological principle underlying vaccination has all but rendered smallpox extinct.

But if Spencer's definition of the external surface of the body marked the dividing line between external and internal diseases a careful consideration of it raises the still more interesting question, Is there any disease, external or internal, with any but an external etiological cause? by the definition the only internal structures are those included within the skin and mucous membranes. Disease affecting these structures would be true internal diseases. The question is, Does the etiological factor active in producing such diseases ever take its rise within these tissues themselves? I think not. I think it may be shown that from the moment of conception to the instant of death, no force, either constructive or destructive, is generated de novo from the true internal structures as defined above, but that every force acting there, and even those tissues themselves, are the product of the transformation of forces entering the body from outside itself. Even the blood of the fetus and mother does not intermingle, but the nourishment from the mother's blood passes through the walls of the vessels as they inosculate in the placenta. And in those cases of infectious diseases contracted in utero, the virus entered the fetus from without, though in that case the infection atrium existed in the damaged walls of inosculating fetal and maternal vessels in the placenta. If this theory is true, the etiology of all diseases is simplified to a certain extent, though the simplification does not consist in the determination of any specific cause of disease. It rather consists in the determination of the place where infection may be looked for.

It has been shown above, clearly, I hope, that the science of medicine has undergone an evolution; that the latest stage of that evolution is the study of biology, or the laws of the manifestation of life, both in correlation and antagonism. And that though previous to the stage of biological investigation there was absolutely no exactitude in any branch of medicine, the first great biological discovery placed immutable principles under the science of surgery. And each new discovery of a biological law has contributed anew to exactitude in some branch of the general subject of medicine.

In so doing it has contributed to the destruction of the two chief obstacles to medical progress. One of these Virchow mentioned in his oration at the anniversary of Huxley's birth, when he said that the fact that man was looked upon as a unit instead of a combination of units, called cells, was the leading obstruction to the advancement of biological knowledge.

The other is the fact that, through all the centuries past until now, it was the belief, held not only by the laity, but by the vast majority of scientists as well, that life was not the manifestation of law or laws, but was an inexplicable gift of the God of the Heavens. That while it was never manifested outside of a physical form, it, in its manifestation, had no part in the laws by which that form was established. So long as these two beliefs entered fundamentally into scientific thought, medical and biological progress was impossible. Every student of medicine knows that in the last analysis the state of health is the unobstructed operation of the laws of life, and that disease is but the obstruction or modification of these laws. And that therefore a prime essential in treating diseases is a knowledge of the laws of life. But so long as life was held to be devoid of law, so long as it was supposed to be a miraculous phenomenon superposed upon the law-governed physical world, knowledge of supreme importance could not even be imagined.

But with the development of chemistry it was seen that the doctrine of revelation, that man was created out of the dust of the earth, was not a dream, but a scientific verity; here was first seen the truth that on one side, at least, life was connected with the physical.

With the two visions through the microscope of the unicellular protozoa, and

Schleiden's discovery of the cellular structure of organic tissues, taken in connection with the truth that the unicellular protozoa had all the fundamental functions common to the higher organisms, there was laid the foundation of a scientific and philosophical doctrine which, while it shocked the world with the magnitude of its import, at the same time modified every science and invested every truth, whether demonstrated in the past or to be demonstrated in the future, with a new importance.

This was the doctrine of evolution, as propounded by Darwin and Spencer.

Beginning with the fire mist that filled the heavens, Spencer taught, with matchless rhetoric and resistless logic, that the laws of life had their beginning there; traced them to the culmination of their beauty, first in the stars that are hung in the heavens, and next in the glowing colors of the lily and the rose, and showed that these laws, passing through star and flower, reached the climax of their splendor in the brain of Shakespeare, which conceived a Hamlet. Here, then, in the doctrine of evolution, as proclaimed by Spencer, was the most complete and exhaustive attempt at tracing the laws of life from beginning to end, and I believe that the student of the principles of medicine and surgery can derive much insight into those principles by the study of philosophical biology.

For the connection between the doctrine of evolution and medicine is not as remote as it seems. If we cannot reach any fundamental conclusion concerning disease, until we have reached a fundamental understanding, not of life itself, but of the laws of it, and we cannot, we must admit that medical progress is impossible if there be no laws of life to be understood. If there be no biological laws, pathological laws are impossible. In the absence of both medical science is an impossibility.

In the determination of this question, then, each student of the ultimate principles underlying the science of medicine is irresistibly driven to a decision for himself of the most gigantic question that ever vexed the soul of men, the basis of the struggle between science and religion; the one side holding that the phenomena of the universe are the direct results of the spontaneous acts of a creator, without the intervention of law, the other that every phenomenon is the product of, and is explicable by, either known laws or unknown laws possible of discovery, and that the highest expression of that law is laid down in the doctrine of evolution; the struggle brought to pass by the effort of each side to establish the truth of its particular dogma has often disgraced civilization. It has prepared the torture chamber for the student, and to the epithet "materialist" has been replied "superstition."

But truth, like life, is the product of conflicting forces and equally illustrates the law of the "survival of the fittest." And out of the conflict between science and religion error has been stripped from the shaft of truth that has ever risen higher and purer still; while in developing its full force to overthrow its adversary each side has blessed the world with its richest benizon. The scientific world, to establish the truth of its position, has developed the microscope, the telescope, the test-tube and all the instruments of precision, by which truth is demonstrated, and the partisans of the doctrine of special creation, with its central thought of divine love, have builded hospitals, churches and schools.

As to which side of the controversy the medical profession as a whole has either consciously or unconsciously espoused the question is determined by the study of biology. The intervention of law being excluded by the special creation hypothesis, biological investigation would be excluded also.

Biological study presupposes the belief that life is the product of law.

That that decision can be made, and do no violence to Christian principles, is made plain by the "Unity of Truth." If truth is a unit, then demonstration and revelation will not conflict.

Transcendant as has been the practical effect of biological study on medicine and surgery, its mightiest effect has been the demonstration that principles underly the phenomena we study and that medicine may be made a science instead of an art.

The highest scientific statement of biological truth is found in the doctrine of evolution. The truth underlying that doctrine is that organic life is a climax of the operation of physical laws; and, underlying this still, rests the transcendental doctrine of "The Unity of Truth and the Universality of Law."

In these ultimate truths we have at once

the explanation of the fact that medical truths are the last to be unified into an exact science and the hope that such unification is not far distant from us. Life is the climax of the operation of physical laws, and the law of its manifestation is a unit; the progress of exactitude must be, as it has been, from the simple to the complex; and out of the unity of its law is born the hope that, by tracing it from the simplest manifestation upward, at last we may understand it in the climax of its complexity. If this be true, we must broaden our studies. We must become physicians who understand physics as well as physic.

In fundamental truths we will find a larger meaning in specific truths. For the most stupendous revelation of the microscope was neither the microbe nor the cell, but this: That the law of life was one and the same for the macroscopic and microscopic worlds; that in the battle between the microbe and the man lay revealed the primordial truth that life is the product of a contest which we call the "Struggle for Existence;" that the doctrine of physiological resistance is but a restatement in medical terms of Spencer's law of the "Survival of the Fittest," and Darwin's "Natural Selection." The medical side of this truth is that disease is not an entity as life is, but that it is only an incident in the operation of the laws of life; that the deepest truth we can study, even when we study pathology, is the law by which life is manifested and survives. For the pathological field of observation in the deadhouse is but the wreck-strewn battlefield on which was tested to the end the strength of antagonistic vital forces.

Traumatic Dislocations of the Femur.

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Dislocations of the femur may be congenital, they may be the result of violence or they may be pathological, as the result of muscular contraction, in a joint in which pathological changes have destroyed some of the essential structures of the joint. For the present purpose only luxations due to violence will be discussed. It is a rare accident and is frequently associated with extreme violence and extensive injury of the structures contiguous to the joint. It constitutes about 5 per cent. of all dislocations. It occurs in men more frequently than in women, and at the period of life of greatest activity.

The luxations to which this joint is exposed are variously classified by authorities, some classifications seeming unnecessarily complicated. The usual one, which is perhaps sufficiently comprehensive, recognizes four regular dislocations, two in which the head is found posterior and two in which it is found anterior to a vertical line drawn through the acetabulum.

Naming them in the order of frequency of their occurrence:

1. The backward and upward dislocation, in which the head is found on the dorsum of the ilium, commonly known as the "dislocation upon the dorsum ilii." This form is by all means the most frequent, constituting at least 50 per cent. of all cases.

Backward and Upward Dislocation.

2. Backward, in which the head is found on the ischium, somewhat below the level of the acetabulum, known as "dislocation into the sciatic notch." This form constitutes about 30 per cent. of all cases.

3. Forward and downward, in which the head is found in front and below the acetabulum, in the thyroid foramen, known as the "obturator or thyroid dislocation."

This form constitutes about 11 per cent. of all luxations.

Forward and Downward Dislocation.

4. Forward and upward, in which the head rests upon the pubes near the ischio-pubic junction, known as "dislocation upon the pubes." This form constitutes about 7 per cent. of all cases.

Dislocation upon the Pubes.

Of the remaining 2 per cent. those most interesting to the surgeon are those in which the head is found just beneath the anterior inferior spine of the ilium, a form that will be again referred to in this paper. There are various other positions in which the head is occasionally found, but as they differ in degree of displacement only, it is not desirable to complicate the classification by enumerating them.

There are certain general facts that are common to all traumatic luxations of the femur.

Luxations occur only while the limb is in a position of abduction. The rent in the capsule is always in the lowest part of the capsule, and usually slightly posterior to a vertical line passing through the center of the acetabulum, which is the weakest part of the capsule. The primary luxation is always downward, or downward and slightly backward, in backward dislocations, and downward and slightly forward in forward dislocations.

The ligamentum teres is always entirely ruptured if present. In a certain percentage of cases this ligament is absent. If it exists in a given case complete luxation is an anatomical impossibility so long as the integrity of the ligament is maintained.

The ilio-femoral, or Y, ligament, although it may be slightly lacerated, is never completely ruptured.

In dealing with a case of luxation of this joint it is important to bear in mind the foregoing facts, as they not only aid in diagnosis, but indicate in a general way the steps that are necessary to accomplish reduction of the luxation. In every instance luxation takes place while the limb is in a position of flexion and abduction at the time of impact. The factor which determines whether any given case is to be one of backward or forward luxation is whether or not the limb is inverted or everted at the time of impact. If it is everted the force will result in a forward luxation. If the limb is inverted it will result in a backward dislocation.

The position of abduction and flexion places the joint in a position which furnishes least resistance to displacement. The Y ligament is relaxed, as is also the ligamentum teres, and the ischio-femoral ligament, and the head is brought firmly against the lowest part of the capsule, opposite the cotyloid notch, which is the weakest part of the capsule. While in this position the head occupies the lowest and

shallowest part of the socket, and more than half of the articular surface is without the acetabulum. While in this position a very slight force is sufficient to rupture the capsule and carry the head through the rent and out of the acetabulum.

Admitting that the primary luxation is downward, the fact is apparent that the four forms already referred to are secondary. Of the backward luxation it may be said that the displacement upon the dorsum of the ilium differs from that into the sciatic notch in degree rather than kind. The same may be said to be true of the luxation on the pubes. The factor which determines whether the backward luxation is to be one into the sciatic notch, or upon the dorsum of the ilium, is the extent of the rent in the capsule, the amount of injury sustained by the muscles involved and the extent of inversion of the limb at the time the injury occurred. It has been shown that the greater the degree of inversion at the instant of impact, the greater the probability of the head being carried into the sciatic notch.

In backward dislocations the limb is shortened, inverted, adducted and flexed. Pain is always present and extension of the limb to normal is impossible. The trochanter is always above Nelaton's line and there is marked resistance to outward rotation, abduction and extension.

In forward dislocation, abduction and outward rotation are present, the abductors are extremely stretched and abduction is strongly resisted. There is present some lengthening, which is apparent, rather than real, being due to tilting of the pelvis. The head can usually be felt in its new position.

There can be but little difficulty in making a diagnosis in the "regular" dislocations. Some confusion may arise in cases in which the head is just beneath the inferior iliac spine, in determining whether it is a backward or forward luxation. In such cases the fact should be kept in mind that in all forward luxations the head is found anterior to the Y ligament, while in all backward luxations the head is found posterior to that ligament.

A differential diagnosis between luxation and fracture of the neck can be made by noting the fact that in luxation shortening of the limb is always associated with inversion and flexion, while in fracture shortening is usually associated with eversion of the limb, while flexion, if present, is slight. Here, again, confusion can only arise in differentiating between an impacted fracture of the neck with inversion of the foot (a very rare condition), and a luxation in which the head is found just beneath the anterior inferior iliac spine. In this latter condition a diagnosis can only be made by a recognition of the fact that in the luxation referred to the joint is more firmly fixed and outward rotation is more extreme, due to tension put upon the Y ligament.

In the treatment of this affection it is necessary to recognize the fact that the head should retrace its steps in the same path through which it traveled to its new position, and that it must first be brought back to the position of the rent in the capsule. This can best be done by what is known as reduction by manipulation. Various operators have devised plans of manipulation by which the head can be replaced in the acetabulum. They all depend for their success in the manipulation upon the integrity of the Y ligament, using it as a fulcrum of a lever, the shaft being the long arm and the neck the short arm of the lever.

The most usual plan of reduction by manipulation is briefly formulated as follows:

In all backward luxations, flex the thigh in the adducted position to relax the Y ligament, then circumduct out to bring the head back to the rent in the capsule through the same track by which it escaped, and extend the leg to bring the head through the rent into the acetabulum.

In all forward luxations flex the leg in the abducted position to relax the Y ligament, then circumduct the thigh inward to bring the head back to the rent in the capsule, through the path by which it escaped; then extend the leg to bring the head through the rent into the acetabulum. The after-treatment should consist of rest and quiet for a few weeks with any suitable dressing that will immobilize the joint.

My Experience with the Galvano-Caustic Treatment of Prostatic Hypertrophy.

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[Read before the Illinois State Medical Society, May 17 1899.]

The history of galvano-caustic incision of the prostate is not of so very recent a date as one might believe, judging by the comparatively short time in which it became more generally known and done. Bottini described it in Langenbeck's "Archive" in 1897, but with the exception of Lenander and Czerny very few surgeons got interested in it. His method failed to command the attention of the medical profession for various reasons, such as the inadequate construction of the first instruments, the insufficient electrical supply previous to the introduction of the storage cells into electro-therapeutics, the disinclination on the part of surgeons to work in the bladder without the guidance of the eye, and the more imagined than actually existing danger of hemorrhage following the incision. But the greatest obstacle for the adoption of Bottini's ingenious idea was, and to a certain extent still is, Guyon's theory of the etiology of prostatic hypertrophy, attributing all the symptoms in these cases to congestion and arterio-sclerosis of the urinary tract, and not to the obstructing barrier at the vesical neck and in the prostatic urethra. It is to be regretted that this theory has caused part of the medical profession to look upon prostatic hypertrophy with indifference or helpless resignation, while others employed the most heroic and yet oftentimes unsatisfactory measures, as, for instance, castration and drainage of the bladder by perforating the gland through the perineum or the rectum. But Guyon's theory lacks the support of practical experience, and the cases in which the bladder, even after years of complete retention, regained normal functions when the obstructing portion of the prostate had been removed, should have pointed at the barrier as one of the probably primary causes, and which should have invited investigation and surgical interference in this direction.

The cystoscope also has contributed to throw light upon the situation, and has demonstrated that prostatic hypertrophy is not a disease peculiar to men in that age of which Sir Henry Brody says: "The prostate grows when the hair turns gray and starts coming out," and which, according to Sir Henry Thompson's age limit, is past the fifty-sixth year of life. I admit that naturally we very often find hypertrophy associated with arterio-sclerosis in advanced age, but I have frequently met with hypertrophy and retention in the forties and early fifties, where the most exhaustive examination did not allow of another diagnosis, and the cystoscope failed to disclose arterio-sclerosis. On the other hand, I had repeatedly occasion to see through the cystoscope extensive arterio-sclerosis of the bladder wall and the prostate of old men afflicted with hematuria, cases in which considerable tenesmus existed, and the calls to urinate came as often as in prostatic obstruction, and yet no residual urine was found in the viscus, a blood clot in the vesical neck having produced all the disturbance. Although it cannot be denied that structural changes of the bladder wall are peculiar to and increase with the advancing age, they certainly become accentuated and aggravated by mechanical obstruction at the vesical neck, and more so by a chronic inflammation. We therefore are not justified in regarding arterio-sclerosis and congestion as the exclusive causes of all the clinical symptoms of "prostatism" and of the anatomical changes in the prostate, bladder and kidney. Bottini has to be given credit for having first conceived the correct conclusions regarding prostatic obstruction, and for devising the method of galvano-caustic division of the gland by way of the urethra, securing the adjacent parts from incalescence by the employment of a refrigerator.

The apparatus itself, in its present modification, devised by Freudenberg in Berlin, does not allow of any criticism, and in the hands of a competent surgeon renders the operation absolutely harmless; I give the description in his own words:

"The modifications in point are relative to shape, handiness and electro-technical construction, affording at the same time the possibility of sterilization.

"The modified instrument is provided with a stout cylindrical, grooved handle, strong and steady in the hand, quite resembling the well-known handle of a lithotrite.

"The cooling apparatus is inserted on this side of the handle, instead of at its farther extremity, thereby obviating incalescence of the handle and securing the rubber hose of the cooling apparatus from being compressed by the ulner aspect of the hand.

"In lieu of the platinum blade platiniridum is used; this alloy being harder, and so less apt to bend, and by reason of its electrical resistance permitting of the employment of the weaker current for rendering the blade incandescent.

"Another addition consists in the conduction of the current ascending to the knife within the guide through a single wire, equaling in volume the two wires used in the original instrument; the descending current passing through the hull proper, and, by reason of its close contact with the canula, through the entire length of the external instrument. Moreover, greater steadiness of the blade, riveted as it is to the inflexible hull, has been insured. The connection of the instrument with the conducting wires has been achieved by a process corresponding with the axis of the instrument and leaving both poles in a concentric arrangement. A slight jerk will move up the corresponding cable attachment to which the cables are fastened; these are united to nonconducting wire, and owing to the improvements of electrical construction are much thinner than formerly.

"Interpolation and interruption of the current are effected by a minute screw, superseding the special interrupter of the original apparatus. The last, and, as I view it, most important alteration, is the employment of a waterproof and heatproof putty, which, by tightening and isolating the apparatus, allows of its being treated in toto, like any other surgical instrument, not only being as to antiseptic solutions, but as to sterilization in boiling water, a process we could not formerly have supplied without seriously damaging the instrument.

"The new departure is sure to meet with appreciation, especially when one is promiscuously dealing with septic and aseptic bladders.

"In conclusion, I beg to call attention to an accumulator for Bottini's operation, which, however, may be employed in any other galvano-cautery. It is fitted up with an amperemeter."

(The idea of adding an aperameter was suggested to Freudenberg by the fact that in practicing the Bottini method the degree of incalescence of the blade, after being introduced into the bladder, was beyond the control of the eye.)

"The amperemeter allows one at any time to read the strength of the current permeating the instrument, thereby getting an exact indication of the temperature of the blade."

A minute description of the modified incisor is given in the "Centralblatt fur Chirurgie," No. 29, 1897.

The operation is performed without chloroform, cocaine only being applied as a local anesthetic. The bladder is emptied by catheter before introducing the incisor, which itself should be tested previously in regard to the temperature necessary to produce a slight degree of white heat in the blade. This amount is registered on the amperemeter and can be kept up while the blade is beyond the control of the eye. After having introduced the instrument very much like an ordinary steel sound, so far that the beak is well in the viscus of the bladder, one turns it to the lobe which it is wished to incise, and at the same time brings the cooling apparatus into action. This done, it is necessary to pull the instrument downward until the point of the beak is well hooked to the upper margin of the gland, and close the current. From ten to fifteen seconds are allowed to pass, which time is necessary to heat the blade up to the temperature desired, and then the incision is made by slowly turning the screw to the right. This, as one will see on the downward motion of the outer piston, brings the blade out of the protecting groove and into the gland. The graduated scale on the piston allows an exact estimate of the length of the incision.

Having obtained this, one must reverse the lay of the screw until satisfied that the blade is back again in the groove, then interrupt the current and remove the instrument. If more than one incision is desired the instrument may be turned toward the lobe it is wished to incise and proceed in exactly the same way devised for the first incision. The operation takes from two to five minutes, after which there is very little if any complaint on the part of the patient, a slight burning sensation during micturition and slightly bloody urine for the first

twenty-four or forty-eight hours; this is about all that is experienced. The patient is allowed to get up in forty-eight hours, if no contraindicating complications exist.

I do not consider it of paramount importance to fill the bladder with a small amount of fluid before the operation, as advised by Freudenberg and Viertel, or to distend the bladder with air, as advised by Lewis. The fluid in the bladder only makes the use of much more powerful and voluminous batteries necessary. The danger of perforating the empty bladder by hooking a transverse vesical fold with the point of the instrument, as happened to Freudenberg, seems to me very remote, and might perhaps have been caused by working too high up in the viscus. I cannot see any objection to inflating the bladder with air, if one feels safer to operate this way, because the air does not interfere with the platinum burner, and, as it is claimed, renders the operation absolutely painless.

From the description one might conclude that the operation is the most uncomplicated and simple procedure one can think of, and it is so under certain conditions. First of all, a correct diagnosis is required, based upon a thorough bimanual and, wherever possible, cystoscopic examination It is not sufficient to establish the fact of an existing enlargement of the gland, but it is paramount to determine the character, location and configuration of the obstructing objects. The hypertrophied prostate is voluminous, but not every large prostate is hypertrophied. Hypertrophy, which is a disease, is quite different from prostatomegaly, which is only a symptom accompanying prostatic edema, congestion in old people, chronic prostatitis and tumors of the gland. It is further necessary to determine if the enlargement is a general and uniform one, or if but parts of the gland are involved, and which parts, and if the projecting nodules look into the viscus or have invaded the prostatic urethra.

Strictures, especially in the membranous urethra, are often found complicating hypertrophy, diverticule, concrements and tumors in the viscus, and chronic inflammatory conditions outside of, but close to the bladder wall, will influence our action and prognosis. Paresis or paralysis of the bladder of spinal origin should be excluded in order to avoid disappointments with and reflections upon the method. The amount of retention urine is, in my experience on fifteen cases, and from what I read in the literature on the subject, without consequence for the final result of the operation. But of great value is the proof of elongation of the posterior urethra, without which hypertrophy of the prostrate is hardly imaginable. This will prevent us, for instance, from diagnosing prostatic enlargement as it actually happened in cases in which concentric hypertrophy of the bladder wall has rendered it impossible to feel the line of demarkation of the gland. When I said the operation, as a rule, is very simple and uncomplicated, I meant to say in the hands of the surgeon who is familiar with the peculiar work in the urethra and bladder. I therefore do not agree with Alexander Thomson's objection that working in the dark without the reliable guidance of the eye is too dangerous to favor Bottini's operation, because we possess this guidance in the distinct sensation of resistance communicated to our hand in the very moment when the cavity of the beak of the incisor touches the prostate.

If these objections would be accepted, how would it stand about curetting of the uterus, vaginal hysterectomy, myomectomy and litholapaxy, and yet we all know that the master hand of Sir Henry Thompson has crushed many concrements, even in the empty bladder, without a lesion to the latter. We all know that one or the other surgeon unfortunately perforated the uterus during a curettement, that a ureter was ligated in a vaginal operation, that a bladder fold was picked up by and crushed between the bars of a lithotrite, but these accidents have not induced us to give up these operations. The failures or incomplete results after the operation have to be attributed to various reasons. I would divide them in such due to the operator or to his apparatus, and such for which he cannot be held responsible. Among the first I enumerate insufficient lengths and numbers of the incisions, insufficient heat in the blade of the incisor, and the desultory incising of the vesical neck, notwithstanding an insufficient or incorrect diagnosis. To the second, I would count total loss of the contractile elements in the bladder wall; too far advanced cases in which the projections are too high and too thick to allow an effective cauterization, and all the complications which I have pointed out be-

fore. It is to be regretted that we do not possess the means of even approximately ascertaining the presence or absence of the contractile bladder elements before the operation; but the latter, if not successful in such a case as far as a spontaneous micturition is concerned, will at least remove the obstruction, and facilitate catheterization, as I have seen in a case I operated on four months ago. The cystoscope will be found of great value in disclosing some of the causes of partial or total failure. I refer to a case of a patient of mine, 76 years old, on whom I performed the operation three months ago. He was so sensitive and restless that cystoscopy was inexpedient, and relying on the result of bimanual palpation I incised, under steady resistance and restlessness of the patient, the median and left lobe only. As the symptoms of retention remained almost unchanged, I put him under Schleich's general anesthesia, used the cystoscope, and found the right lobe projecting, and the median lobe not deeply enough incised, while the incision in the left lobe appeared perfect. I incised the right and median lobe, which was followed by a complete cure.

In another case of complete retention, seen six months after the operation, in which all the morbid symptoms with the exception of a slight catarrh and 40 cubic centimeters of residual urine had disappeared, I satisfied myself that the incision had been sufficient, but found that a diverticle, discovered by the cystoscope before the operation, furnished the symptoms of residual urine.

Among the post-operative complications are reported hemorrhage, retention, urethral fever, and, what I have repeatedly seen, but to my knowledge has not been reported by any observer, epididymitis. I believe that the hemorrhages are due to the aimless incision of the anterior part of the prostate, which contains the paraprostatic venious plexus, and which, as we ought to know, never participates in the obstruction. Another source of profuse hemorrhages may be given by incisions carried too far down into the prostatic urethra. We will also have to expect profuse hemorrhages and unsatisfactory results if we crush the tissues by working too fast, or with an insufficiently heated blade. True, the amperemeter indicates the strength of the current as it passes through the blade, but a cautery acts differently when burning in the air, or when surrounded by water or moist tissues. Consequently we do not possess such an absolutely reliable guide in the amperemeter as other observers state, and we will have to rely much more upon the sensation of resistance while making the incision. I also found that this resistance becomes more and more distinct and disturbing the more incisions I made; while it was not felt at all during the first incision, it appeared during the second, which required much more time for the same distance than the first. Upon withdrawing the instrument after the first incision, I saw the blade covered with a thick layer of burnt tissue, to which I ascribed the disturbance. After scraping the same off and replacing the instrument again, I experienced no difficulty in performing the second incision, just as fast and easy as the first one. In cases where retention for a short time after a successful division exists, it is due to a reactive congestion. I never found the introduction of a soft rubber catheter in such an even difficult, and would only suggest to leave it in the bladder for a few days rather than repeatedly inserting it, which latter is more likely to provoke a hemorrhage, while the former will be efficient in stopping it if it should occur.

I have not seen urethral fever in my cases, but I believe that it might appear, caused by traumatism after forcible use of the incisor.

A very strange occurrence is the epididymitis, which I have seen in about 30 per cent of my cases, and which is so conspicuous by its persistence, and because it usually made its appearance between the third and fifth weeks after the incision, and each time in the epididymis corresponding with the lateral lobe which I had incised. From the time which had elapsed between the operation and the first symptoms, I must exclude traumatism or direct infection, as the swelling appears at the time when the eschars start to separate from the underlying granulating tissue. I would feel inclined to explain the process by absorption. That the symptoms of cystitis do not simultaneously disappear with the incision cannot be called a failure of the operation. I admire and envy any other observers who make such statements, but my

experience is somewhat different. I have invariably found that a mild cystitis due to the obstruction and congestion was relieved by the galvano-caustic diaraesis, but the cases in which a purulent cystitis existed and the bladder appeared infected required treatment for months after the operation, although it may be admitted that the possibility of emptying the bladder had a favorable effect on the subsequent treatment.

As I do not wish to take up your time with a citation of all my cases, I pick out the histories of four cases which I consider instructive in many respects, stating that the result in all of the others was and still is highly satisfactory, the time of observation of some of them extending over seventeen months after the operation.

Case 1. Patient, 71 years old; practicing physician of this city. Noticed first symptoms of frequency in urination eight years ago. Experienced pain, tenesmus and increased urination in 1893. In 1896 complete and permanent retention set in and catheter life began. Calls to urinate and pain every fifteen or thirty minutes, day and night, for the last six months. This is the statement the patient gave me when I saw him first on the 2d of March of this year, when he came to my office with a profuse hemorrhage from a false passage in front of the triangular ligament, produced by the futile attempt to pass a metal catheter to relieve his distress. Performed Bottini's operation on the 7th day of March. Cystoscopic examination disclosed median lobe and left lobe enlarged and projecting into the bladder. Length of urethra, 11 inches; posterior urethra, 3½ inches. Made one incision in each of the enlarged lobes. The 1st of April patient reported continence for four hours day and night, free passage of urine from four and a half to five ounces, residual urine two ounces. On the 13th of April continence for six hours, residual urine in twenty-four hours, from 25 to 35 c. c. On the 18th of April patient came to my office with epididymitis on the left side, which has since returned three times, and which is one of those cases of which I have spoken before. At present, May 15, there is hardly 15 c. c. of residual urine in twenty-four hours.

Case II. Patient 54 years old. Complete retention for nearly two days; had a similar attack about eight years ago (then only 46 years old), from which time frequent and unsatisfactory urination remained and grew worse from year to year. Prostate of the size of a large orange; the right and median lobes mostly involved; length of urethra, twelve inches, (for which reason cystoscopic examination was impossible). Stone searcher did not disclose presence of concretions. In spite of regular catheterization for eight days condition remained unchanged.

Bottini's operation July 3, 1898. The next day voluntary urination set in; about one-half an ounce expelled every fifteen to twenty minutes; five days afterward continence for two hours; amount of urine passed increased accordingly. Five weeks after the operation continence for three hours during night and two hours during the daytime; residual urine one-half of one ounce; urination free, painless and satisfactory. Strange to say, about eight weeks after the operation the patient got worse; passed bloody urine which, upon microscopical examination, did not show evidence of a tumor, and by rectal palpation the left lobe was found considerably enlarged and rather painful. Several days afterward, while passing urine with great pain in my presence, he expelled a very small phosphatic concrement which was followed by similar ones during the next four weeks. As his condition became unbearable and a stone could not be detected by the steel sound, and as cystoscopic examination was impracticable on account of profuse hemorrhage following the introduction of the instrument, I advised a suprapubic cystotomy, thinking of the presence of an encysted or sacculated stone and perhaps a tumor of the left lobe, and explained my views to the patient, who was ready to submit to an operation that promised relief.

Suprapubic operation performed November 30, 1898. Trabecular bladder, and between the trabeculæ, covered by secondary tissue, fourteen phosphatic concrements found, each the size of a small bean. Left prostate lobe ulcerated in its vesical portion; curetted and cauterized lips of bladder; wound sutured to the skin. Patient had an uneventful recovery. Fistula closed five weeks after operation. About one week afterward recurrence of painful micturition and bloody urine, apparently caused by malignant disease of the left lobe. Continence one hour and one-half in day-

time; about three hours at night; one-half to one ounce residual urine.

Case III. Patient 64 years old. Symptoms of prostatic obstruction appeared first about nine years ago. Six years ago complete retention for about twenty-four hours Saw the patient first about four months ago. At that time he had cystitis and alkaline urine; tenesmus day and night; temperature 103 degrees F.; bilateral epididymitis. He had been in the habit of catheterizing himself during the previous two years. The calls to urinate came as often as ten to fourteen times during the night and about every hour during the day. Patient could only press out a few drops of urine at a time. Residual urine measured on various occasions between five and nine ounces. Upon rectal examination the right and the median lobe were found considerably enlarged and hard. Entire length of urethra ten inches; posterior urethra, three and a half inches. Cystoscopic examination corroborated the results of rectal palpation and disclosed two gonorrheal ulcers of the size of a bean, in the trigonum, where the latter was elevated by the enlarged right lobe.

Regular catheterizing and irrigations of the bladder gave some relief, but otherwise condition remained unchanged. Bottini's operation was performed December 28, 1898. On account of ulcers in the trigonum I used antipyrin as a local anesthetic. (In passing I wish to say that in all cases where an absorption of cocaine might be anticipated, antipyrin as a local anesthetic should be given preference. The application of antipyrin for this purpose is not of recent date. It was used in Vienna, Paris, Buda-Pesth, for litholapaxy and internal urethrotomy some years ago.) Two incisions were made, each three centimeters in length, one in the right lobe and one in the median lobe. Left soft catheter in the bladder during the first three days. Eight days after the operation the patient had continence for three hours; residual urine half an ounce. Five weeks after the operation continence for six hours, day and night; residual urine, a few drops. Posterior urethra two and a half inches long.

The gonorrheal cystitis improved rapidly under local treatment. I had one case of death six days after the operation caused by uremia. The patient, 72 years old, was suffering from diabetes insipidus, apparently due to amyloid degeneration of his kidneys following upon syphilis. He had complete retention for nine years; cystoscopic examination showed all lobes enlarged and projecting into the viscus. Urine amoniacal. The patient demanded urgently the operation, but refused to be operated on without general anesthesia. I made one incision in each lobe under Schleich's general anesthesia and left Nelaton catheter a demeure in the urethra, giving orders to remove it forty-eight hours after the operation, but which by a misunderstanding was left there for four days, when symptoms of uremia set in, from which patient dies on the sixth day. I believe in this case narcosis and the urethral shock worked together to hasten the fatal termination of an illness which by its nature and the circumstances alone was sufficient to make it a critical one.

The conclusion which I draw from the experience of my own cases and the reports of others I should like to concentrate in a few words. The efficiency of the galvano-caustic radical treatment can be explained by the peculiarity of the actual cautery, which, in all organs and tumors rich in connective tissue, does not only display an effect on the contact surface, but also a remote one, so that every cauterized spot forms a shrinking center for the surrounding tissues. The cautery, therefore, will reconstruct the normal caliber of the prostatic urethra, while in cases in which the projections form a bar between the urethra and the trigonum it will bring the bottom of the bladder to the level of the vesical outlet, or, so to speak, artificially extend the urethra into the basfond. In the majority of cases the operation will have to answer both purposes. The success will depend on the condition of the bladder wall. It will be a complete one if enough contractile elements exist to take up the normal functions of the detrusor, and their regenerative power even after years of inactivity is simply remarkable.

It goes without saying that surgical means to relieve the distressing symptoms of retention will have to be employed only when conservative methods, after a reasonable time, have failed. Among these Bottini's galvano-caustic radical treatment will be indicated in most of the cases. Castration might have its advantages in a limited number of cases in which the gland appears diffusely enlarged and soft, but in

which no projecting nodules are found. But castration is a mutilating operation, repulsive to the patient and uncertain in its results. Suprapubic puncture and perineal drainage gives but temporary relief from embarrassment, and prostatectomy is expedient only in the few cases of pediculated lobes, and not without consequence, because it necessitates general anesthesia, as a rule not necessary in Bottini's operation, and confines the patient to his bed for weeks, enhancing the risk of dangerous affections of the heart, lungs and kidneys of the old and often emaciated people with which we have to deal. Bottini's operation, even if it should only be partially, or not successful at all, which will rarely be the case, is harmless and not followed by a fistula, loss of the testicles, or hypostatic pneumonia, and has therefore to be considered the mildest surgical act in prostatic hypertrophy. As contraindications I would consider only pyelitis, pyelonephritis, and such a general low condition of the patient that no benefit could reasonably be expected from any interference. I cannot see a contraindication in the fact that it becomes sometimes impossible to introduce the incisor over the projections. When it happened in one of my earlier cases, I made the urethra passable by leaving a soft rubber tube in the canal for about a week—a means which I have often successfully employed for the purpose of facilitating catheterization in hard, narrow-gauged strictures. If it should be absolutely impossible to pass a rubber catheter, I would not hesitate to perform suprapubic puncture, relieving the momentary distress, and as a preliminary step for Bottini's operation. The cases are many in which such a procedure resulted in reducing the congestion and swelling in the prostate and a good-sized metal instrument could be passed through the urethra in a few days.

1006 Stewart Building.

The Medical Press Bureau will be in evidence, as usual, at the Columbus meeting, and the Clinc will be among them. Mr. Fassett, at this meeting, proposes to indorse and promote only a limited number of high-grade journals, which plan, we believe, will inure to the benefit of both Mr. Fassett and the journals he represents.

The Treatment of Rectal Fistula.

By J. R. PENNINGTON, M. D.,
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[A lecture delivered at the Chicago Clinical School, May 9th, 1899.]

A rectal fistula is the result of an abscess, hence preventive treatment or the early treatment of the abscess is very important. It is the too common observation of those who see much rectal work that abscesses around the rectum are treated by the physician in a very unsurgical manner. Instead of opening the abscess and giving free exit to the pus, it is usually poulticed until it bursts. This is radically wrong. Such advice and treatment have made many a poor sufferer an invalid for life. To say the least, every rectal abscess should be opened as soon as pus is discovered or suspected. It will certainly not redound to the physician's credit to allow pus to burrow for days or weeks, as is often done, around and through the tissues of the rectum. Only recently I presented to the class here a patient who, six years ago, had an abscess pointing over the coccyx, the result of a fall. This abscess was opened and allowed to continue to discharge pus and burrow through the tissues until finally it burst through the hip. These tracts had discharged pus periodically since the abscess was first opened. When she first consulted me I found a large pus sac filling the entire pelvic cavity and the uterus firmly fixed. Also a recto-vaginal fistula, which she said had existed for the past twelve months. Gas, feces and enormous quantities of pus were continually passing through all of these openings as well as per rectum. There also existed a very close stricture about the size of a lead pencil, and located five inches from the anus. Taking into consideration all of these conditions, the recto-vaginal fistula, pelvic cavity full of pus, the stricture and her general condition, which was very poor, I decided that a colostomy, which I performed at this hospital February last, was the only safe and rational treatment that could offer her any hope of success. It seems to me that to see such a serious and pitiful condition of affairs follow what was primarily a simple abscess

should be sufficient reason for every physician to give more careful thought and study to the subject of peri-rectal abscesses. The early treatment of these conditions would cause fistula in ano, which is one of the most destructive forms of rectal disease, to become one of the rarest forms of rectal ailments.

FIG. 1.

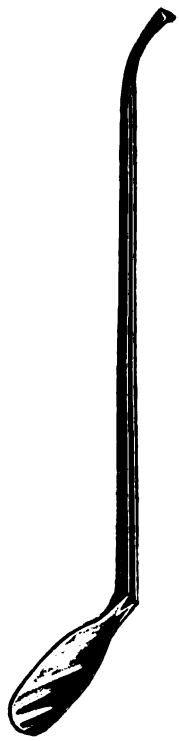


FIG. 2.

Just as soon as pus is detected or even suspected the patient should be warned of the sequelæ, sepsis and fistula, and advised to submit without delay to a surgical operation. Consent obtained, the part should be thoroughly cleansed, an anesthetic administered and a free incision made into the infected part. This would give free exit to the pus. The cavity should then be thoroughly irrigated with a mercuric solution and all loculi broken down with the finger, at the same time keeping up the irrigation with either the mercuric solution or peroxide of hydrogen. The sphincter should be thoroughly divulsed, as this puts the part at rest and facilitates recovery. Pack the cavity with iodoform gauze and dress with cotton and a T bandage, and put the patient to bed. In twenty-four or forty-eight hours remove dressings and irrigate with same solutions and redress. Repeat this treatment daily until the wound is healed.

Should the abscess, however, go on to the formation of a fistula, we must meet the unfortunate condition and administer to it intelligent and efficient treatment.

In order to give our patient the best treatment possible, other things being equal, the bowels should first be properly prepared for it. This is most satisfactorily accomplished by giving the patient the second night previous to the operation a cathartic. I usually give from two to five grains of calomel in broken doses, to be followed the next morning with a large dose of salts. Then five or six hours before operating administer a colonic flushing. By preparing the patient in this manner the bowels will have been thoroughly moved and you will have a clean field in which to operate. Should you give the cathartic the night before and the enema about one hour previous to the operation, as directed in the text-books, you will find it to be the rule and not exception that your patient's bowels move during the operation, which not only makes the work disagreeable and unpleasant, but, what is

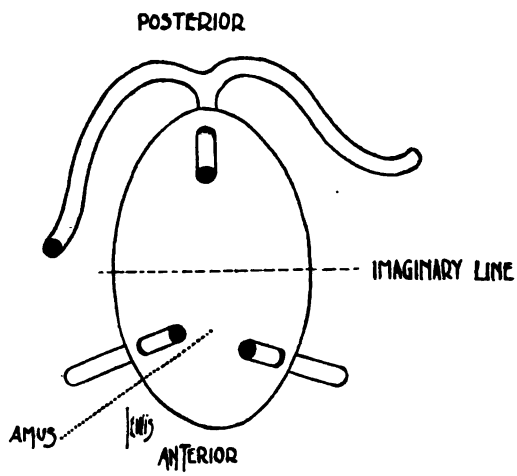


FIG. 3.

more, your field is rendered septic. In operating, the position of the patient may be on either side or his back. I prefer, however, as a rule, to place my patient on his side. This is the most convenient position for the majority of rectal operations,

but occasionally the lithotomy position is preferable. The surgeon should be well provided with good instruments. Especially is this true with reference to the bistouries and directors. The bistoury, Fig. 1, should be strong, sharp-pointed and curved. The directors should be of various shapes and sizes, probe-pointed and made of steel, Fig. 2. Silver ones are of but little use on account of their pliability. Many of the steel ones are too clumsy and the probe-points too large. This may be considered a small matter, but I have seen it make all the difference between failure and success. The assistant holding the upper buttock up, the director is passed in at the external opening and along the track of the fistula through the internal opening. If this be near the anus the forefinger of the hand is passed into the bowel and the end of the director brought out at the anus and the tissues lying upon it are divided with the curved bistoury. Mark you, the incision must be made in such a way as to divide the sphincter muscle at right angles or incontinence is almost certain to follow.

Should the fistula extend high up the bowel you will not be able to get the director out at the anus. In such cases steady it and run a straight knife along the groove, cutting carefully toward the bowel until the parts are severed. This is by no means an easy operation.

In old-standing cases it is well to make what is called Salmon's "back cut," which is done by drawing a straight knife through the dense track of the fistula. All overlapping edges of skin and mucous membrane should be cut away, as this greatly facilitates the healing process. A serious error in operating is failing to keep to the fistulous track. The probe may be thrust through the sinus wall and a portion of the main track escape incision. I frequently see patients that have been operated upon in this manner and to be cured must necessarily undergo a second operation.

Another point which I wish to impress upon your mind is that it is often impossible from inspection and examination to measure the seriousness of a case of fistula in ano. One may never suspect its extent and gravity until after the first incision has been made. The presence of only one external opening does not necessarily mean that you have to deal with a simple fistula. I have seen some very extensive and complex fistulæ with only one external open-

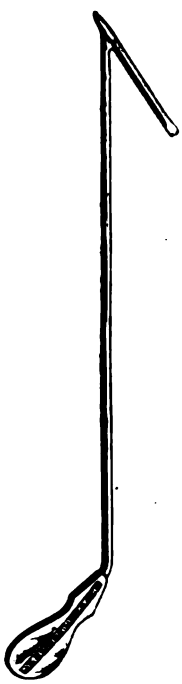


FIG. 4.

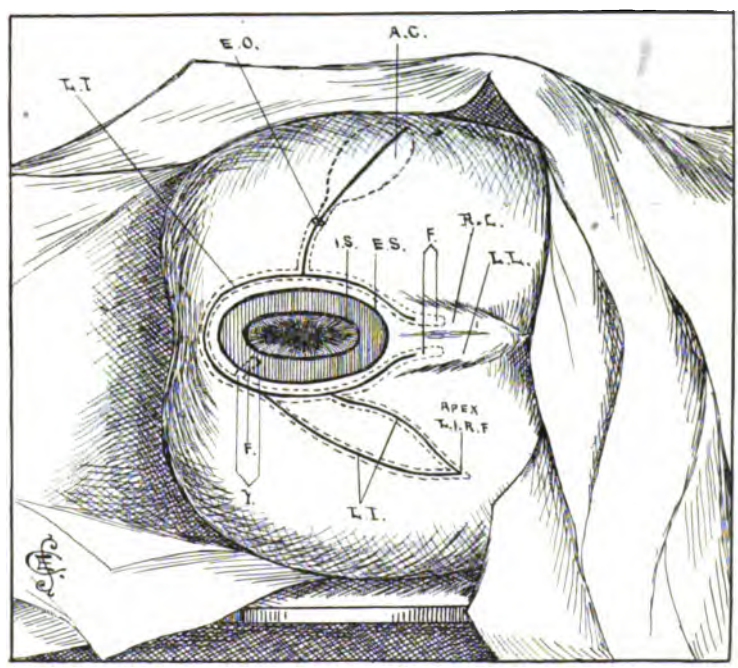


FIG. 5.

ing. And to cure these patients it is necessary to find and open all of these tracks; otherwise, your operation is a failure, which is not apt to add to the surgeon's credit.

Permit me to digress for a moment that I may call your attention to the relation existing between the external and internal

FIG. 6.

opening of a fistula. When at St. Mark's Hospital for Fistula and Other Diseases of the Rectum, London, making a special study of these ailments, Mr. Goodsall pointed out to me his theory of the relation existing between the internal and external openings, which I have observed to be true in a number of cases. His explanation was as follows: "Those cases in which the external openings were situated anterior to an imaginary line passing transversely through the center of the anus generally have their internal opening immediately opposite to the external, and, therefore, the sinus is a straight one." On the other hand, "those cases having the external aperature situated posterior to this bisecting line, the internal opening is apt to be found in the middle line posteriorly, which gives the sinus a curved course." Fig. 3.

Should you have to deal with a blind internal fistula and find a hard nodule in the anul region, make an incision into it and then examine the wound with a probe-pointed director, and should the track be discovered and the director passing into the bowel the operation is completed, as in a complete fistula. Should there be no induration, use an angular director (Fig. 4) to discover the track. To find this sinus pass the director in at the internal opening and along the track until the point can be felt subcutaneously. Cut down upon it and the remainder of the operation is then completed as that of a complete fistula.

Should you have a horseshoe fistula with which to deal, remember that it is all-important to keep in mind its conformation. especially is this true when there is more than one external opening on either side of the anus, and to bear in mind that these tracks have a home in common. Otherwise, one is apt to proceed as though he had two separate and distinct fistulæ with which to deal, and, by following the advice given in most of our text-books, slit up first one sinus, then the other, and, when too late to remedy, recognize that he has divided the sphincter in two or more places. and as a result that his patient has incontinence of feces and a remaining fistula—a most undesirable result. I say undesirable. because it brings disrepute upon the operation for fistula and leaves the patient in a most loathsome and mortifying condition. which is liable to do the operator more injury than to lose a patient after an abdomi-

FIG. 7.

nal section, because he becomes a walking advertisement against you.

In operating upon these cases I always endeavor to avoid cutting the sphincter muscle. If it has to be divided do it at a subsequent operation.

I believe I can best illustrate the method

of operating by explaining the schematic drawings and photographs of the following cases:

Case I. This patient had an extensive horseshoe fistula passing around the bowel posteriorly from the right (R. L.) to the left (L. L.) labia, with two tracks leading off from the main sinus on the left to the very apex of the left ischio-rectal fossa (R. I. R. F.), and another track (Y.) leading from the same sinus under the external sphincter and into the bowel on the same side. This fistula had one external opening only, which was situated over the tuberosity of the right ischium, with a large abscess cavity (A. C.) external to it. The dotted lines in Fig. 5 represent the fistulæ tracks and the abscess cavity, and the heavy line between these dotted lines the course of the incision made.

The left ischio-rectal fossa was completely divided antero-posteriorly from base to apex; the track (Y.) leading into the bowel was not divided, but curetted and irrigated with a bichloride solution. Necrosis had so completely destroyed the right ischio-rectal fossa and the tissues external to the tuberosity of the right ischium that it protruded almost an inch above the base of the wound. The atrophy of the right hip, as shown in the photograph, Fig. 6, which was taken seven months after the operation, gives only a meager idea of the extent and destructiveness of this fistula. The points I wish to call your attention to more especially are:

*1. "That a very deep incision was made entirely around the bowel from labia to labia, and that both ischio-rectal fossa were divided antero-posteriorly from base to apex.

2. That, notwithstanding a track entered the bowel, the sphincter muscle was not divided at all.

3. That by operating in this manner all incisions are made external to the rectum, consequently feces do not come in contact with the wound during defecation, and since it is not connected with the bowel by incisions, can be treated and dressed very much the same as a wound in any other part of the body, a point which seems to me is of no little importance.

4. That there is no irregularity of anus or sphincter muscle because of incisions.

5. That the patient made an uneventful recovery and has as good control over the bowel as if no operation had ever been performed."

Case II. Fig. 7. This case was one of horseshoe fistula also, and was complicated with internal hemorrhoids. This fistula extended around the bowel posteriorly from the right to the left buttock, with a track entering the bowel posteriorly.

In this patient the fistulous track was very tortuous, which made it very difficult to follow. The tracks extending around

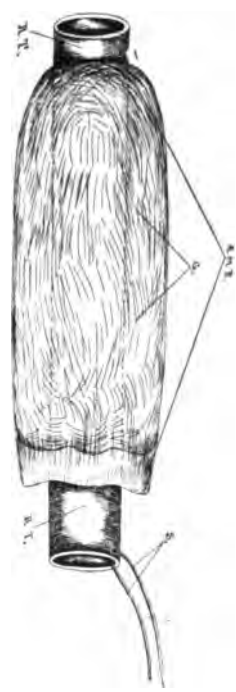


FIG. 8.

the bowel were divided and the one entering it curetted and irrigated. The hemorrhoids were ligated. The track entering the bowel was infected by the sloughing hemorrhoids and prevented from healing, hence it was necessary to slit up this track later, which was very simple and easy. She made a perfect recovery.

The wounds are dressed with either iodoform or boric acid, sterilized gauze, cotton and a T bandage. In some cases I insert into the rectum one of my rubber-covered rectal tampons, Fig. 8. It not only lessens pain, but is one of the best possible protections against hemorrhage. It also provides for rectal drainage, and is one of the

* Pennington, Medicine, February, 1899.

best dressings that can be applied. This tampon is made by taking a piece of five-eighths-inch rubber tubing (R. T.), about four and a half inches long, and attaching a string (S.) for anchorage to the distal end. The tube is then wrapped in sterilized gauze or cotton (G.) until as large as desired, then a rubber covering (R. C.), made by the Miller Rubber Manufacturing Company of Akron, Ohio, is pulled over this filling, which completes its construction. To insert this tampon a bivalve speculum is introduced into the rectum, opened and the tampon pushed into position between the blades. The speculum is then removed, when the rectal walls adjust themselves snugly to it. After the first dressings are removed the wound should be dressed daily until the patient is well.

103 State street.

Pericystitis in Puerperio.

By GUSTAV KOLISCHER, M. D.,
Professor of Gynecology, Chicago Clinical School, Chicago.

This disease is not mentioned yet in medical literature, although I think it should be recognized as a genuine form of disease. There appears sometimes in the later puerperium an inflammatory infarction of the perivesicular cellular tissue, especially at the anterior side of the bladder, which assumes sometimes such dimensions that the whole bladder to the touch seems to be transformed into a disc or cake-shaped, hard tumor, larger than a man's hand.

This tumor is attached very close to the anterior abdominal wall. The course of the disease is usually this:

After the patient has complained for a time of not being able to void urine without straining, or she has had to be catheterized for an unusually long time after confinement, and a slight tenderness of the lower abdomen is present, she suddenly is taken with an attack of fever. Sometimes a chill marks the beginning of the disease which follows. Nothing is more common than to think of that which is generally termed a puerperal process, but as the discharge does not become offensive and discolored, intrauterine disease may be excluded, and an inflammation of the parametrium is sought for.

By bimanual examination the anterior half of the pelvis minor and major is found filled with a tumor, from which the uterus cannot be isolated. The tumor is especially tender on its anterior side, and as a rule thorough palpation cannot be carried out on account of the reactive tension of the abdominal wall.

This condition remains almost unchanged for weeks and months, and in spite of repeated examinations no point of softening can be found to warrant surgical interference.

Finally, after an emaciating, long sickness, spontaneous recovery takes place. In consequence of the disease there remain often pointed distortions of the bladder. I have never observed phlebothrombosis or other serious sequelæ appear in the course of this disease, nor suppuration of the inflammatory tumor.

The proper diagnosis of this pericystitis, as a rule, is not made. In fact, I have twice seen laparotomy performed in cases of puerperal pericystitis, as the surgeons expected to encounter a parametritic exudate, which was supposed to have developed toward the anterior abdominal wall. In both cases the findings were typical. As in all cases of extended pericystitis the reserve fold of the peritoneum was used up; the bladder transformed in a large, hard, disc-shaped tumor, protruding like a board into the abdominal cavity; the uterus attached very close to the posterior side of this tumor, was overwalled by it, but movable; the parametria were without any symptom of inflammation.

In order to establish the diagnosis of puerperal pericystitis, the symptoms should be divided into two groups—one group is obtained by bimanual palpation, the other by an internal examination of the bladder itself.

By the bimanual examination, eventually, when necessary, under anesthesia, one finds the above mentioned disc-shaped tumor in the region of the bladder, although, by the protrusion of this tumor into the abdominal cavity, the uterus, as a rule, cannot be differentiated, it is still possible to isolate the uterus from the tumor by rectal exploration; at the same time, the fact can be established that the parametria are tender and soft and that the uterus is overwalled by the tumor. The uterus itself is movable.

Often, through the rigid resistance which

the hard tumor causes, it becomes possible to palpate the ureters, which never can be done in cases of puerperal parametritis. Internal examination of the bladder gives the following conditions:

The capacity of the bladder is not considerably changed, but the whole viscus is elongated, as sounding shows; one notices that, though the bladder has been filled as much as possible, the tumor does not grow smaller by emptying the bladder through a catheter; consequently the tumor is not caused by a distention of the bladder, but by changes in its walls and in the surrounding tissues. After spontaneous micturition there is always residual urine to be found; the bladder cannot contract completely.

When the cystoscope is introduced into the bladder the beak of the instrument can only with difficulty be raised; the anteroposterior diameter is impaired; while the trigonum and the posterior bladder wall shows normal appearance, the anterior bladder wall is edematous, and covered with point-shaped petechias—a condition I pointed out as characteristic for pericystitis.

To these findings has to be added that in the most of cases edema is to be found between the tuberculum urethræ and the clitoris, and on the mons veneris; the latter very often is overlooked, as it is covered by the hair.

With reference to the etiology, I desire to mention an observation I have made in such cases:

There has always been a protracted labor with very severe pains, so that the head of the child has pressed against the pelvis for a long time, or emptying the bladder in proper time has been omitted, or a very difficult forceps operation has been performed. So it is not unreasonable to suppose that in these cases a traumatic hemorrhage into the perivesicular cellular tissue has taken place, which hemorrhage is the primary cause of the inflammatory infarction. As regards the therapy, I found very useful hot irrigations of the bladder, hot poultices applied to the lower abdomen, and ichthyol suppositories for their analgesic effects.

But, encouraged by the success in operations on puerperal parametritis, especially obtained by American gynecologists, I believe it well worth considering whether we cannot treat puerperal pericystitis surgically, at least in acute cases.

92 State street.

Saturday Lessons in Neurology.

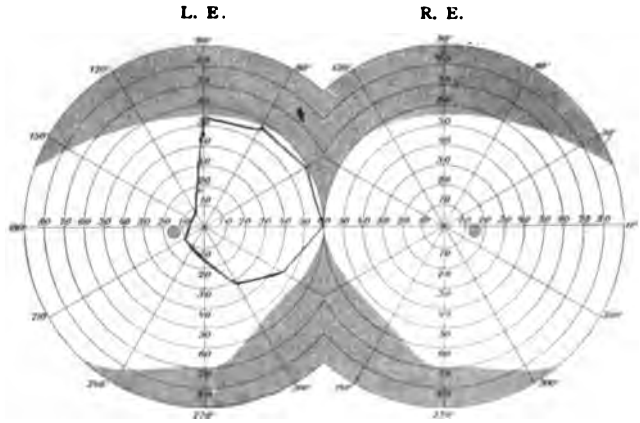
By HAROLD N. MOYER, M. D.
Professor of Nervous and Mental Diseases, Chicago Clinical School

THE HEREDITY OF TABES AND PARETIC DEMENTIA.

The close relation existing between tabes and paretic dementia has been recognized for many years. Even a limited neurological experience will furnish numerous cases in which the well-marked syndrome of paretic dementia is preceded by inco-ordination, loss of the knee-jerks, lightning pains and occasional optic atrophy or extrinsic ocular palsies. On the other hand, cases are observed which begin with the characteristic mental disturbances of paretic dementia and later show, as the disease progresses, involvement of the posterior root zones. These are respectively termed "ascending" and "descending" forms of paretic dementia, and these mixed types serve to accentuate the close relation between paretic dementia and tabes. Again, the close relation which both of these bear to specific infection is admitted. The percentage of the pure types of each disease in which luetic infection can be absolutely determined is very nearly the same.

A family group of tabes and paretic dementia recently came under my observation which presented some striking illustrations of the close relation existing between these two disorders. The history of the family is as follows: The mother is now fifty-three years of age; she was married at the age of nineteen, one child resulting from this union, who is now thirty-four years of age and perfectly well. Nearly ten years later she married a second time and the result of this union was three children, two boys and one girl.

The second husband was exceedingly intemperate and of ungovernable temper. He lived to be about fifty years of age and finally died of phthisis, though it is stated that his



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RECORD OF THE OCULAR CONDITIONS PRESENTING IN THE OLDEST SON.

excessive use of liquor largely contributed to his early death. The wife is unable to give us any information of the husband's health history prior to marriage, so that the possibility of specific disease cannot be affirmed or denied. She states that aside from the excessive use of intoxicants the husband was a man of fair intellectual attainments, and so far as his intemperate habits permitted was fairly successful in business. She describes him as a clever, active man with an education above his station in life.

She speaks of the three children, the result of the second union, as having been in childhood exceptionally bright and rather precocious. When the circumstances of the family compelled them to leave school each was farther advanced than the average child of the same age.

The medical history of the family is as follows: The mother is now fifty-three years of age, with well-developed tabes. The disease began with prickling and numb sensations in the legs, which were followed three years ago by staggering; lightning pains have developed within the last two years. For a number of years there has been failing vision and she states that this began quite suddenly in her forty-seventh year. At the time it was first noticed she was reading and vision suddenly failed. The use of plus glasses improved matters for a time, but eventually they were abandoned as being of no real service. At present there is marked swaying with eyes closed, loss of the knee-jerks, trunk anesthesia and optic atrophy.

The oldest boy is twenty-one years of age and now has marked inco-ordination in the lower extremities, station is impaired, knee-jerks have disappeared, but there are no trunk anesthesias; vision is practically nil in one eye and is very much reduced in the other. I append herewith report of the ocular conditions as observed by Dr. Edward Brown of the Illinois Charitable Eye and Ear Infirmary:

The record shows a progressive failure of vision for the past four years. The right pupil slightly oval, 3.5 mm. in diameter, the left pupil round, 2.5 mm. in diameter. They both respond sluggishly to accommodation, but not at all to strong focal illumination. The right choroid and retina is normal. The nerve head is pale and of a porcelain blue, clearly outlined with slightly atrophic cupping. The lamina vibrosa shows plainly; the arteries of the disk are reduced to one-half normal caliber. The veins are normal. The left fundus presents the same conditions, except the bluish color and the primary atrophy are more marked. The vision is reduced in the right

eye to 20-100 and in the left eye to a perception of outlines. The disease began with him three years ago and was initiated by a marked failure of vision. Later the lightning-like pains and the swaying developed.

The second child, a girl now eighteen years of age, is well and free from nervous troubles.

The youngest boy, sixteen years old, presents now the clinical picture of paretic dementia. Six months ago a change in character was noted; he became irritable and his actions were silly. Previous to that time he had been employed in a grain inspector's office in a work involving considerable responsibility for a lad of his years. He discharged the duties of his position to the satisfaction of his employers and was generally considered among his associates as a clever lad with a bright future. The silliness and irritability increased and he finally came under observation, at which time it was noted that there was a slight unsteadiness of gait. This was not marked and was only shown when standing with feet close together and eyes closed. There were no delusions or hallucinations, but simply a silliness of conduct and conversation. No pains were complained of; the knee-jerks were somewhat exaggerated. There was a fine tremor of the hands and a marked defect in articulation, with some tremulousness of the tongue and lips. The diagnosis of paretic dementia was largely made upon physical signs, though the mental picture, while by no means the typical one described in the books, is still sufficiently like that of many cases to justify such diagnosis.

The family history as a whole is one of great interest from the standpoint of heredity. The character of the husband and father renders luetic infection highly probable. The very early development of tabes in one boy and of paretic dementia in another would seem to place it in the category of those cases in which the prodromal symptoms are in the parent and the developed disorder in the children.

We regret the necessary omission of the article by Prof. Quine in this issue. He was compelled to leave the city for a few weeks' rest and recuperation, after a most arduous winter. We hope to present the lectures as usual next month.

Observations on the Operation of Symphysiotomy.

By H. McKennan, M. D., Paris, Ill.

The history of the first century of symphysiotomy is one of discouragements. Since the earliest Sigault operation, it has never commanded the universal support of the profession. Because of the fact that the majority of the very early operations proved disastrous, we have been inclined to regard entirely the results, instead of the causes of those results. Thus we have been led to entertain an unscientific prejudice against the operation.

But when we remember that a hundred years ago the precautions against sepsis were unknown, and the technique was as crude and as faulty in this as in all other operations at that time, it is not so surprising that the mortality in symphysiotomy was high.

Abandoned at one time in disrepute, symphysiotomy, which was revived by Morissani, is now prominently before the profession of America. Five or six years ago text-books passed the subject by with a short paragraph or two, mostly for its historical interest. Now, no obstetrical textbook is complete without a chapter devoted exclusively to the operation.

The present maternal mortality in America does not do justice to the operation. Those cases, many of which were operated upon in hopeless conditions, should not be counted against symphysiotomy. For instance, in the first 51 American operations there were eight deaths. Dr. Harris' report shows us that one woman was far advanced in Bright's disease when the operation was made. Another was beyond hope at the time of the operation, owing to unskillful treatment, and another was believed to have been infected with sepsis through uncleanly obstetrical management, prior to the operation. Another caught cold on her way to the maternity hospital and died of double pneumonia. Another was three days in labor before going to the hospital and died of sepsis. Another, vagina badly torn and edematous from attempts to deliver before going to hospital and at time of operation, had a pulse of 140 and temperature of 102. Another was in labor sixty hours. Vigorous attempts to deliver with forceps prior to the operation had fractured the frontal and

CASE I.

occipital bones of the fetus and produced injuries to the vagina which were followed by gangrene. Under the same conditions, the prospect for these women under any plan of treatment or any operation would not have been bright.

As to the technique and method of dividing the symphysis, each operator must select the method which, in his judgment, will best meet the requirements of his individual case. Whether he uses the old Italian method, with its sickle-shaped knife of Galbiati, or whether he follows the technique recommended by Ayers, Lusk or Harris, it matters not.

If the patient is a suitable one for the operation, and has not been tortured to exhaustion and infected by unskillful obstetrical manipulation, and, above all, if the operator is cleanly and expeditious about his work, the woman will recover.

Bear in mind that women do not die from the surgery, but from the obstetrics and from sepsis. I believe that when the cases are carefully selected and where the operation is done early—in fact, just as soon as the os is sufficiently dilated to allow the head to pass, and before there has been any instrumental interference—the maternal mortality will be reduced to zero and the fetal loss will correspond with normal deliveries.

The trouble with us in the past has been that we were so keen to perform symphysiotomy that we operated on many cases that were at the time hopelessly unfit for the operation.

It is not my purpose to elevate symphysiotomy to a higher place than any of the other competing operations. Cæsarean section will always command the support of experienced surgeons, and will continue to offer to women with small or deformed pelves a fair chance for the recovery of themselves and a bright prospect for the lives of their children.

The induction of premature labor may be practiced in certain cases, and offers a good chance for the mother's recovery. The fetal loss is, however, greater than in either of the former operations.

Craniotomy upon the living child is a relic of an ignorant age, and is a barbarous practice. In this day of instruments and of literature, of opportunity for acquiring knowledge, with the field literally swarming

CASE II.

with medical men and women who are always glad to assist, the conditions must be remarkable indeed to justify the killing of an unborn babe. Don't do it.

Celiotomy should be made in those obstructive cases where symphysiotomy would be contraindicated. But where you have a healthy parturient woman with a pelvis so small or flattened that an average sized head will not engage in the superior strait, with no obstructive growths, and the true conjugate measures over 2¾ inches, if the child is alive and apparently of average size, I would say clean off the pubes and external genitals and divide the symphysis, according to the method that seems, in your judgment, best suited to that individual case, and deliver the child. You do not require a hospital and a corps of trained nurses; you do not require great skill as a surgeon. But with the ordinary ability of a country doctor you can safely perform symphysiotomy in any of the homes of your country constituents. It is well to bear in mind that the exact pelvic measurements are not so important as the relative size and conformability of the child's head to the bony outlet.

Symphysiotomy is less formidable and in suitable cases, I believe, is safer to the mother and child than any of the operations with which it comes into competition.

Nothing contributes more to the success of symphysiotomy than proper after-treatment. Of this the most important factors are absolute cleanliness and immobility. Personal daily inspection and cleansing of the patient by the attending physician, if necessary, will secure the former; and at the same time ascertain the condition of the appliance used to secure the immobility of the divided joint.

There is some diversity of opinion in regard to the proper method of maintaining the joint apposition. Gutter, or trough-shaped, beds have been invented; iliac compressors and peculiar girdles have been devised; apparatus which suspend the woman from the ceiling by rope and pulley have been recommended; and sand bags, laid alongside the woman's hips, have been used. Others have been content to wind the hips with roller bandages, or support them with adhesive strips. All are, no doubt, valuable and any one or more of these methods may be adopted.

I desire to call your attention to the methods used in two cases of symphysiotomy in my own practice. The first case was operated on Dec. 16, 1892, and was reported before the society at the Chicago meeting the following May.

The woman was 4½ feet high and weighed about 100 pounds. Pelvis flattened, with a conjugate vera of 2¾ inches. She had been delivered twice before by means of craniotomy, the second time nearly losing her life. The third labor began on the evening of December 15. The next morning I was called and found the os thoroughly dilated and the left arm protruding. Version was easily accomplished, but the head could not be made to engage. After eight hours of labor and before any instrumental interference, I divided the symphysis with a small metacarpal saw, the index finger beneath the symphysis as a guide, cutting from above downward, and delivered the child with forceps. Hemorrhage was controlled by hot water and pressure, the wound was stitched, covered with a little boric acid and sealed with silk plaster. The hips were wound with an ordinary muslin roller, which was reinforced by more roller bandages every day or two during her convalescence. The woman was kept in an ordinary bed and nursed by the neighbor women. Her home was a very poor, unfinished two-room cottage, with furnishings too meager to be comfortable. In three weeks' time the patient was well, with a perfect bony union of the symphysis. The child lived and is now a bright little schoolgirl.

The second case, which was reported in full in the January number, 1899, of "Obstetrics," occurred within a rifle shot of the first. A dwarf, aged 30; height, 45 inches; weight, 50 pounds; true pelvic conjugate, 2¾ inches. Her husband is 5 feet 10 inches tall and weighs 140 pounds.

This little woman was confined Nov. 4, 1898. Her labor was allowed to proceed uninterruptedly until the os was fully dilated. The head would not engage in the superior strait, and forceps were cautiously applied, but proved of no avail. The mons veneris was then shaved, the parts thoroughly disinfected and I proceeded to perform symphysiotomy, after the method described above, except that a small probe-pointed bistoury was used to divide the symphysis. During the passage of the head the pubic bones separated two inches.

The child weighed 4½ pounds and had a biparietal measurement of 3 inches.

The wound was stitched with silk, covered with sublimate gauze and cotton, the hips were wound with several turns of adhesive plaster and the patient placed in an ordinary bed. At the end of the fourth week she was permitted to get up and gradually resume her household duties. She suffered no pain after the first day or two, and her recovery is complete. The child lived and is as large now as the average baby of the same age.

This case is remarkable because of the small size of the woman, as compared with that of her husband, and because the fetal head was as large as the average child's head at full term. This operation, also, was made in a small cottage and the patient was nursed by a neighbor woman of very ordinary ability.

I wish to emphasize the following points:

1. Symphysiotomy is not so formidable but that it may be performed by any physician of ordinary ability.

2. Your patient must be free from sepsis and free from exhaustion.

3. The technique is immaterial so long as it is clean and expeditious.

4. The after-treatment demands absolute immobility of the divided symphysis and daily inspection and cleansing of the patient by the attending physician.

5. Expensive beds and apparatus are sometimes convenient, but are not necessary for the success of the operation.

6. Your patient may be operated upon in her own home, among her own surroundings, and by her own physician.

Nosophen as a Substitute for Iodoform.

By D. A. K STEELE, M. D.

Professor of Surgery Chicago Clinical School; President and Professor of Surgery and Clinical Surgery College of Physicians and Surgeons; Attending Surgeon to Chicago Hospital, West Side Hospital and Wesley Hospital, Chicago.

For more than twenty years I have been using iodoform as a standard antiseptic powder in a very large and varied surgical practice. On account of its offensive odor and occasional toxic effects I have from time to time temporarily discarded its use in favor of some other antiseptic powder, only to return to the use of the iodoform on account of my failure to find a perfectly satisfactory substitute.

A little more than a year ago I began the systeamtic use of nosophen in place of iodoform. My results with this new antiseptic and its derivatives, antinosine and eudoxine, have been so uniformly satisfactory that I feel at last a reliable and permanent substitute has been found. Ever since 1852, when Magendie directed attention to the antiseptic properties of iodine, it, with others in the group of haloid elements. stands first in the list of substances that are very strongly antiseptic, and hence my continued partiality for the iodine compounds as the most reliable antiseptics at our command.

Nosophen is a light, impalpable, yellowish-gray, odorless, tasteless powder, obtained by the action of iodine on solutions of phenol-thtalein, and contains 61.7 per cent of iodine in combination. It can be heated to 220 degrees C. without decomposition. I use a 3 per cent nosophen gauze exclusively after previous sterilization with live steam, and believe it possesses distinct advantages over the iodoform gauze. I have now used nosophen in more than one hundred cases of major and minor surgery, in hospital and private practice, and my experience has verified the observations of previous writers, that nosophen manifests its action only by coming in contact with the living alkaline fluids of the tissues, the secretion of an ulcer or mucous membrane.

My earlier observations in the use of nosophen were confined to the treatment of a large number of chronic, indolent ulcers of the leg, dependent upon varicose veins, syphilis or diabetes. The method I have followed in this class of cases was to curette the ulcer or swab its surface thoroughly with Churchill's tincture of iodine, then dust the same thickly with nosophen; apply a light nosophen gauze compress, large enough to cover the ulcer, and over this a few overlapping inch wide strips of rubber adhesive plaster, encircling at least two thirds of the limb. Then a light layer of absorbent cotton and a roller bandage completed the dressing.

These dressings were changed every two or three days and after the second dressing marked improvement in the appearance of the ulcer would be noted. Suppuration would have diminished, or ceased entirely,

healthy granulations appear promptly and rapid epidermization and cicatrization followed, complete healing resulting in two or three weeks. Some cases were kept in bed, but many were of the ambulatory type, treated at the dispensary.

Tubercular ulcers yielded equally satisfactory results as when treated by iodoform, and tubercular sinuses or joints treated with nosophen emulsion rapidly improved. One of the most remarkable instances of rapid cicatrization of an indolent ulcer of the leg was the case of Mrs. J. D. E., aged 70, referred to me by Prof. W. E. Quine for treatment of a large, sloughing, diabetic ulcer on the calf of the right leg, which entirely healed under the nosophen treatment in three weeks' time, after having resisted all other forms of treatment for seven weeks. The favorable results obtained in this first series of cases induced me to extend the use of nosophen to other cases of surgery where the use of an antiseptic powder was indicated.

In recent wounds, and especially in the crushing injuries of fingers, railroad cases, etc., I found that it promoted rapid healing without suppuration or increased pain. In the treatment of phlegmons, felons, abscesses and similarly infected foci, after free incisions, curettement and irrigation with a solution of bichloride 1 to 2,000, I dusted with nosophen and dressed with nosophen gauze, securing rapid healing.

In appendicitis cases operated upon, where there was a necessity for drainage on account of septic peritonitis, gangrenous appendix, or local abscess, at the point of perforation of the appendix, I have found it a most valuable application. My experience with the hygroscopic qualities of the nosophen gauze confirms the statements of Prof. A. C. Bernays of St. Louis, and my results have been equally good.

I have also used the nosophen gauze for intra-uterine packing after curettage; in fact, I now use and recommend it in all cases in which I formerly used iodoform or iodoform gauze.

In placing before the medical profession the experiences I have gathered in one year's use of this new antiseptic, iodine compound, nosophen, I do so because I believe the preparation is deserving of a far more extended use than it has thus far received, and I commend its use by all surgeons who object to the indestructible and offensive odor of iodoform, or who fear its toxic qualities and desire a good substitute that is hemostatic, sedative and antiseptic. I believe nosophen possesses all these qualities.

103 State street.

Right Marital Living.

By Ida C. Craddock, Chicago.

To know how to live rightly in the marital relation calls for the recognition of two facts, in especial: (1) That the mental attitude of men differs from the mental attitude of women toward the physiological side of marriage. (2) That there are two physiological purposes of marriage, and that these should be carefully differentiated from one another. I will consider this latter point first.

In the marital relation the sexual nature manifests at the genitals through two distinct functions—the love function and the parental function. These two functions are not always exercised conjointly. There are also two sets of organs for these two different functions.

For the parental function, in the woman, the organs are the ovaries and the uterus; in the man they are the testicles and the vesiculæ seminales. The organs of the love function are those which contact—the erectile organ in man, the vulva and vagina in woman. The uterus, however, also seems to be with many women a love organ, and it is probably intended by nature to always take part in the culmination of the act; but this is merely as an organ of contact.

The love function may and should be exercised periodically, in order to secure a healthy, well-balanced physique and mentality for both parties.

The parental function, however, may remain for years unexercised, without detriment to either party.

As startling as this last assertion may seem, especially to the average man, who is accustomed to think that, on his own part, the love function must not be brought into play without at least an abortive attempt at exercising the parental function; it is, nevertheless, borne out by the facts which have come under my observation as a teacher of right marital living.

Let us remember that the seminal fluid is bestowed by nature upon man for one

purpose only—the creation of a child. It is quite true that nature, in order to secure the propagation of the race, surrounds the propagative act with all sorts of allurements; but the semen itself is given, not for mere sensual gratification, but for a creative purpose. To turn it aside from its natural purpose is to live wrongly as a husband. This means, of course, then, that, after the seed has once been sown there should be no more seed-sowing until that seed has germinated and the harvest has been reaped, which requires nine months. Also, there should be no undue sexual excitement of the nursing mother. And a little child is entitled to the care of its mother during the first two years of its life—a care which is interfered with if the mother be undergoing the delicate fluctuations of pregnancy. This brings the time for abstaining from the exercise of the parental function up to two years and nine months; say, in round numbers, three years.

An impression prevails among both physicians and the laity that, to exercise the organs of the love function without also at least an abortive attempt on the man's part at exercising the parental function, will be prejudicial to his nervous system, and, consequently, to his health. This may be true, if the act be performed merely as a physical function. It is not true, however, if the mentality (which, in its turn, governs the nervous system) be kept in a certain state of serenity and exaltation.

Physicians all know that, when they are called in to attend to a patient, if the latter have confidence in his physician, or if he have a courageous heart, the battle is already half won; while, on the other hand, if the patient has lost hope, or if he has no confidence in his physician, the struggle for life is waged against terrible odds. This is because the mental state has so much to do with the control of the nervous system, which, in its turn, regulates the various functions of the body.

This is especially the case with the sexual act, whether creative or non-creative. I therefore insist to my pupils that, in order to attain to the self-control necessary for the purpose of abstaining from the exercise of the parental function during the marital embrace, all movement on the part of both husband and wife must, just before the critical moment, be promptly desisted from, and, on the man's part, the thoughts be turned completely away from the bodily sensations, and fixed on something beyond and above him. If he believe in God I insist that he shall pray to God at that moment, not only consecrating his body to God, but also asking God to be the third partner. If he be an Atheist, a Materialist, to whom the name of God is like a red rag to a bull, I insist that he shall, in thought, seek to be in harmony with nature, with the ideal, the beautiful, the true, with the ultimate force, the unconscious energy of the universe. This last is strictly logical from a materialistic standpoint. For the Materialist insists that there is but one substance in all the universe, Matter, and that from matter every known force is produced, whether physical, mental or emotional. And since it has already been demonstrated by physicians that certain physical forces, such as motion, heat, light, etc., may be transmuted into one another, and that it is only a question of difference of vibration; and since these physical forces, according to Materialism, are all of them manifestations of one ultimate force, and since the mental state of a person has a very important effect upon his body, as every physician knows, it logically follows, from the Materialistic standpoint, that, as thought is a material force, it may, under suitable conditions, be transmuted, through the laboratory of the ultimate force, into physical vibrations in the body. These suitable conditions, I maintain, exist during the sexual act. Intense, earnest, resolute thought upon a high plane throughout that period of nervous excitement—especially upon the highest plane of all, namely, the effort to sustain harmonious relations mentally with the ultimate force of the universe—will produce marked psychological effects, as follows:

(a) The orgasm, and, with it, the ejaculation, can be repressed at will, and without any deleterious effects whatever.

(b) The union may be prolonged at will, so as to allow sufficient time for the woman to come to the climax, a process which, in the typical, average woman, usually requires from a half an hour to an hour after entrance. It is the failure of the man to wait for the gradual working out of this process in the woman, which frequently results in her dissatisfaction with the relation. The habit of inducing excitement

at a woman's genitals, without natural and healthy satisfaction to her at the close, too often results in internal trouble which renders her a lifelong invalid.

(c) It refines and spiritualizes the relation and tends to make every union a renewed wedding night.

(d) I have spoken of the total suppression of the orgasm as the sine qua non of this method, but it is only the first step in the training of the man. The second step requires that he be able to desist upon the very verge, and along the same lines of self-control and aspiration to the highest. The third and final step requires that he should go right through the orgasm with this sustained self-control and aspiration to union with the ultimate force of the universe, without ejaculation, but with the controlled orgasm and the sustained thrill.

This is not impossible. I have pupils who are living healthful, happy lives in accordance with this method.

The woman, likewise, should be instructed, either by her husband or by her physician, or by someone of her own sex, in her duty of coöperation. She, also, must learn (1) to suppress her orgasm at will; (2) to desist on the very verge, and (3) to go through it without swooning or any similar abandonment of self-control, in a serene mental state of aspiration to union with God or with whatever she believes in as the ultimate force of the universe. If the woman be instructed previous to marriage, as she should be, she can instruct her husband and insist on his beginning properly upon the very wedding night. In more than one instance among my own intimate friends this has been done, and with the happiest possible results. The husbands are to-day very grateful for this teaching, and would on no account return to the ordinary method in vogue among men. In one case the bridegroom was a widower, who had had, by reason of his married life with his first wife, an opportunity for prolonged comparison of the two methods, and he decided in favor of mine as being by far the most satisfactory method of the two in every way.

I now come to the respective differences in the mental attitude of men and of women toward the physiological side of marriage.

While a man is distinctively a sexual animal, a women is not; she is a maternal animal. Every normal woman mothers the man she loves. She likes affection, caresses and embraces which, without genital contact, satisfy her maternal instinct. It is through her affectional nature that her sexual instinct is most effectively awakened. If husbands would but bear this in mind, and would exercise in the marriage relation the same patience in wooing that marked their days of courtship, much of the unhappiness of married life would be avoided. Every sex union should be preceded by days of ardent, tender wooing on the husband's part. A wife who is used as a convenience cannot possibly respect herself as she once did, for she has sunk below the level of the harlot. And she should not be blamed if she comes to loathe the marital embrace as something inconceivably vile and degrading. I insist that the husband must never, never approach his wife sexually until she is ready. It usually requires from fifteen minutes to half an hour of caressing to arouse a woman's desire for sexual contact If, at the end of a half hour she manifests no desire for it, the time is not, and her feelings should be respected When a woman is treated with lover-like consideration and patience, night after night, her embrace, when it is finally granted, will be found worth waiting for.

Many wives shrink from responding to caresses because they find that the husband insists upon sex union as a finality. Husbands, like spoiled children, lose much of the pleasure which would otherwise be theirs by clamoring for it at the wrong time.

Once in twenty-eight days nature prepares a woman for motherhood, and the physical phenomena which usually attend that period of preparation are the outward indication of the nearing flood-tide of passion in woman, which is creative. This creative passion need not manifest in the conception of a child; it may manifest in the creation of a poem, of a picture, of plans for improved household management, etc., or in the imparting of creative magnetic strength to her husband, and in the receiving from him an uplifting stimulus to her entire nervous system. Through this creative passion her desire for sex union is naturally and beautifully awakened. With most women the time of creative passion comes on the days imme-

diaely following the menses. I have known of one case where it comes two weeks later, and a few cases where it comes immediately before; but these appear to be exceptions. Nature's appointed love-time is this flood-tide of creative passion, whatever time in the month it may come. To choose the ebb-tide of the twenty-eight days for union is most unwise, and the husband who persists in seeking sex union then will be likely to find in his arms ere long a wife who is either a hypocrite or as unresponsive as a corpse. And she will be apt to shrink from her conjugal duty more and more, as time goes on.

One important thing in which many women deed instruction is the duty of performing pelvic movements during the embrace. It must be remembered that, whereas, nearly every man learns from the dreams of his boyhood, if through no other channel, just what the sexual relation is physiologically, the normal woman does not, as a rule, have such dreams until after she has been a wife, and even then, with comparative rareness, if at all. Therefore, her first experiences of wifehood are frequently so startling to her, and she is so ignorant as to what is expected of her, that she fails to respond as a woman should. The Orientals, who teach their women, by means of symbolic dances, something of the pelvic movements expected from a wife, as well as other matters pertaining to self-control between husband and wife, are both wiser and purer than we in this.

Two objections are sometimes raised to the circulation, among the laity, of this instruction upon right marital living.

1. It is urged that, if young unmarried people get to know of this possibility of controlling the fecundating power, seductions and illicit unions of all sorts will increase. In reply I would say that a man who practices this method, and who teaches it to the woman, if only for the sake of increasing his own pleasure, will not be likely to be a libertine; for the habit of aspiring to union with God, or with whatever he recognizes as the ultimate principle of the universe, during the sexual act, has the curious psychological effect of tending to make him too loyal to that one woman to want to break with her. And even if he begins by seducing, he will end by wishing to marry her. For this method, while it always satisfies, never satiates a man, but renders the relation a perpetual honeymoon. On the other hand, should the man neglect to aspire to the highest throughout, but keep upon the sensual plane, the result is likely to be harmful to his nervous system. Also, the union will be far less satisfactory. There are, therefore, two inducements to any man who learns this method to rise above the merely sensual plane to aspire to the highest throughout the act: First, the increased satisfaction if he does; and, secondly, the dread of serious harm to his nervous system if he does not. And if he and his partner live this method, they will tend with each successive union to become more and more closely welded into a partnership which nothing could induce either of them to break. Thus the institution of marriage will be strengthened, not weakened, by the widespread knowledge of this method of right marital living.

2. The other objection urged against the circulation of this knowledge among the laity, is that married people would, in most cases, if conversant with this method, cease to beget children, and the human race would die out. This, again, shows how seldom people grasp the differences in the mental attitude of men and women toward the marriage relation. While a woman is not a sexual animal, she is a maternal animal. The average woman longs, with all the intensity of her nature, to have a child or children by the man she loves, at some time in her life; but it is for her to choose the fitting time. A woman who is made pregnant against her will naturally resents the outrage. I claim for this method of right marital living that the quality of children born from people who have lived in this way will be superior to that of children who are the result of accident or of lust. Also, it has more than once happened that a married couple who have longed in vain for years for a child, have eventually become happy parents by reason of this wise, deliberate, reverent conservation of the male principle for the one creative purpose for which it was intended by nature.

THE MEDICAL LIBRARY.

Saunders' Medical Hand Atlases.

External Diseases of the Eye. We have on previous occasions called attention to the remarkable success which has already attended the publication of Saunders' Hand Atlases, and this volume is surely a valuable and worthy addition to the list already issued.

The volume herein referred to is a translation from Prof. A. Haab of Zurich, edited by Prof. G. E. De Schweinitz, professor of Ophthalmology in Jefferson Medical College, Philadelphia. It is a convenient volume of 225 pages, corresponding to the previous numbers of the Hand Atlas series. The book is embellished with over 80 colored plates and engravings.

Beginning with functional testing, the student is easily and gradually led from one examination to another, and thus made familiar with the best methods of detecting morbid conditions of the eye.

Following these chapters are those devoted to the diseases of the eye, giving the detail of each and also suggestions as to appropriate treatment. One author has not inappropriately compared this volume to the atmosphere of a large clinic in ophthalmology. The illustrations are all taken from life and the author assures his readers that the artist is certainly one of unusual ability in portraying the exactness of detail which is so necessary to successful pathological illustration.

The author has, it seems, had constantly in mind the necessities of the physician in general practice, to whom a large majority of these cases must first come. Consequently much of the text is taken up with a detail of the description of the disease and of the methods of examination. Much of the usual discussion of operative technique is entirely omitted as belonging entirely to the specialist.

The illustrations in the volume are of themselves worth to any physician much more than the price of the book.

The volume is uniform with the series, being published by W. B. Saunders, Philadelphia. Price, $3.

The Pathology and Treatment of Sexual Impotence.

By Victor G. Vecki, M. D. From the author's second German edition, revised and rewritten. Price, $2 net. Philadelphia: W. B. Saunders, 925 Walnut street. 1899.

The author of this volume has furnished the profession with a very thorough and readable discussion of a very important subject in all its bearings. He takes a rational view of the whole matter and does not mingle theology with his medicine. His style of presentation is easy, graceful and polished. The chapter on treatment is especially full and instructive. The possession and study of this book cannot fail to widen any physician's sphere of usefulness.

The International Medical Annual and Practitioner's Index.

A Work of Reference for Medical Practitioners. 1899. Seventeenth year. E. B. Treat & Co., 241-243 West Twenty-third street, New York; 199 Clark street, Chicago. Price, $3.

The seventeenth volume of the annual compares favorably with any of its predecessors. Thirty-two British and American contributors have fully covered the past year's progress in medicine and surgery. The arrangement of the contents is the same as heretofore. The first part, on new remedies and therapeutic progress, is well handled by Wm. Murrell. R. Norris Wolfenden contributes a chapter on "Practical X-Ray Work." A. D. Rockwell writes of recent advances in electro-therapeutics. Part II, on new treatment (including much about symptomatology and diagnosis), takes up 474 of the 758 pages of the book. Samuel G. Shattock publishes the second part of his "Atlas of the Bacteria Pathogenic in the Human Subject," including many beautiful plates, with descriptions and practical directions. The notes of American legal decisions affecting medical practitioners and the public health, sanitary science and books of the year, make up the concluding chapters.

Gerrish's Anatomy by American Authors.

Gerrish's forthcoming Anatomy by American Authors promises to be the work for which teachers and students have long been looking. Its editor, Prof. F. H.

Gerrish, of Portland, has selected as his fellow contributors leading anatomists throughout the country, wisely restricting their number to accord with the best division of the subject, gaining thereby unity in result, joined with the highest authority. The list includes Professors Bevan of Rush in Chicago, Keiller of the University of Texas, McMurrich of the University of Michigan, Stewart of the University-Bellevue College in New York, Wolsey of Cornell Medical College in New York, and Gerrish himself, who is not only editor, but, perhaps, the largest contributor. The plan of the work judiciously avoids the unimportant and exceptional, reserving its space for those portions of anatomical knowledge which are necessary to the intelligent study of physiology, surgery and internal medicine. The authors have endeavored to stand in the place of a living teacher to the student, selecting such portions as will be of actual service to the pupil in his study and to the practitioner in his subsequent clinical work, clarifying obscurities, giving most help in the most difficult parts, and illustrating everything by all available methods. Pictorially, Gerrish's Anatomy will be by far the most lavish work ever offered on a subject which can already boast of many elaborately illustrated text-books. The engravings number about one thousand, their size is large enough to make visible every detail, colors have been employed more liberally than ever before, and, lastly, the labels of the parts have been conspicuously engraved upon them, whereby a glance gives not only their names, but also their position, extent and relations, obviating entirely the slow, toilsome and wasteful mental processes necessitated where only reference letters are employed.

Materia Medica for Nurses.

By Emily A. M. Stoney, Graduate of the Training School for Nurses, Lawrence, Mass.; late Superintendent of the Training School for Nurses, Carney Hospital, South Boston, Mass. Handsome octavo volume of 300 pages. Cloth. Price, $1.50 net.

The present book differs from other similar works in several features, all of which are intended to render it more practical and generally useful. The subject-matter is arranged in alphabetical order, which not only renders it more convenient for study as a text-book, but also adds materially to its value as a work of reference for ready consultation.

The general plan of the contents follows the lines laid down in training schools for nurses, but the book contains much useful matter not usually included in works of this character. The consideration of the drugs includes their names, both English and Latin, their sources and composition, their various preparations, physiologic actions, directions for handling and administering and the symptoms and treatment of poisoning.

Published by W. B. Saunders, Philadelphia.

CHICAGO CLINICAL SCHOOL.

The following operations were performed in the West Side Hospital, during the month of April, the students in attendance at the Chicago Clinical School being present. Compiled by Senior Interne Dr. Bebb:

5 Herniotomy.
1 Laparotomy, Oöphorectomy.
3 Laparotomy and Salpingectomy.
3 Hysterectomy, abdominal.
8 Appendicitis.
2 Curettage.
2 Perineorraphy.
1 Ventral Hernia.
2 Empyema.
1 Tubercular glands of the neck.
1 Tubercular knee excision.
1 Osteomyelitis.
1 Melano-sarcoma of the forearm.
1 Carcinoma of the face.
2 Bottini operations for enlarged prostate.
2 Goiter excision.
3 Staphylorrhaphy.
7 Adenoids.
4 Tonsillotomy.
3 Tonsillectomies.
3 Exostosis.
1 Iridectomy.
1 Advancement for internal squint.
2 Mastoid operations.
1 Abscess of the neck.
1 Schede's operation for varicose veins.

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819 W. Harrison St., Chicago.

JOURNALIZING STATE SOCIETY PROCEEDINGS.

A resolution introduced at the recent meeting of the Illinois State Medical has in view the journalizing of the state society proceedings. The resolution was, unfortunately, we fear, quite promptly referred to the Judicial Council without any discussion of import, with the tacit understanding in the minds of many present that that functionary would at least approve of the trial of the plan for one year.

We hesitate to say a word editorially lest we on the one hand be misjudged or misunderstood. Yet it is a matter of such personal interest and such vital importance to the society that we venture a word even at the hazard referred to.

In the first place, is it a step in advance? We maintain that it cannot be a very marked one, if it is at all. The very fact that the field of medical journalism is more overcrowded than is the field of medical practice itself, is a potent argument against the advisability of such a move. True enough, such a journal would at the start have the enforced support of several hundred good physicians; but to maintain such would they willingly contribute more than the paper read at the state society meeting. Furthermore, how many of those who contribute good material to the meeting would be willing to wait for six or ten months for their article to appear in the official publication, while if the society is to have an official organ it certainly would not and could not content itself and its readers to offer them only second-hand material.

Those who have had practical experience in medical journalism will, we think, bear out the statement that the doctors to-day, perforce of circumstances and competition, can and do demand a much higher grade of journalistic pabulum than would have been acceptable as excellent a few years ago. We believe no one would argue that it would not be retrogressive for the Illinois State Medical to change from a handsome, conveniently bound volume of the transactions to a small monthly publication.

This leads us to remark that if there are any volumes in our library which we use as reference works, and which we prize as valuable, those volumes are the transactions of the state society, and we personally would regret the step which broke in upon this shelf which seems to hold a particular charm. It was remarked, "Get them bound at the end of the year." Yes, but how many of the members will keep intact and clean each and all the numbers until the end of the year?

Any reference, for comparison's sake, to the Journal of the American Medical Association, or publications of even lesser size and import, is unfair and misleading; but even taken such a comparison at its best, it is rather against than for the proposition. If those who urge this proposition will take the trouble to look up the volume of the Journal of the American Medical Association at the time it was started, we are certain that they will look further and investigate its financial report for those years. Had it not been under the care and keeping of such a masterful hand as the venera-

ble and versatile N. S. Davis it would never have lived to innure to the reputation of a Culbertson, a Hamilton or a Simmons. Then, too, it was started with a backing and prestige such as money could not give. It was started at a time when there was room for a good journal that would be national in character.

There was every reason to anticipate its success if properly managed. The circumstances which made it what it is were ready before and awaited its birth, while with the proposed new journal of the state society such circumstances as would tend most to its success remain to be created in a large measure. The "crying need," "long-felt want," "vacant niche," will not exist in this instance. Indeed, already too many medical journals would be compelled to have a search warrant issued, or refer the matter to an expert microscopist, if called upon to show good and sufficient reason for their existence. We have already made sufficient apologies for our own existence.

Much might be truthfully said in commenting upon the advisability of the move from a business standpoint, but that such a venture requires a very considerable amount of available capital, no one knows more certainly than those who have been through the process of fathering such a child. When it is remembered that never before were the patrons of the advertising pages of the medical press so particular in the selection of their space, and when it is known that they are in a position to demand moderate charges for space that is proven to have a positive and sustained circulation, and when the wrecks of such ventures are strewn as thickly as they are about us, it does seem a far-sighted business man would scarcely encourage the proposition.

The southern section of the state has the prestige of the St. Louis journals, some twelve or fourteen in number, while the central and northern portions will more naturally support some two or more of the twenty issued from Chicago. It is not a question whether any good can come out of Springfield, or Ottawa, or any other place outside of Chicago or St. Louis, but simply and only a question of expediency and advisability, as well as an honest conviction that the majority of the members of the state society would personally prefer the bound volume reaching them in August or September, rather than being compelled to wait perhaps ten months for the appearance of an article which was of particular interest. C.

COLORADO MEDICAL LEGISLATION.

Illinois is not alone in having trouble concerning medical legislation. Colorado has a governor who apparently has no use for a physician nor any appreciation of his work. The said governor promptly placed his veto upon a very practical and acceptable practice act which the physicians had succeeded in having passed by both branches of the legislature.

Gov. Stevens of Missouri made for himself a similar record a year or so ago, and Gov. Tanner of Illinois did not do likewise because it would have been impolitic.

Brother Hawkins of the "Denver Medical Times" closes an editorial on the subject in the following terse and tempered terms:

Now, what does our noble and high-minded executive hope to gain by the veto of the medical bill? These are some of his great expectations: The uncertain support of the quack-supported newspapers, none of whose candidates for mayor was successful at the spring election; the brotherly esteem of every mountebank in Colorado, including the large additional number whom the governor's recent welcome address will draw to the state within the next two years; the affectionate regard of every worn-out prostitute, posing as a magnetic healer; the fraternal love of all the bigoted old pharisees of "Christian Science," who are making the Scriptures a stalking-horse for pri-

vate greed; in short, the political favor and assistance of ignorance and imposture in general, especially those phases which fatten on bodily ills.

Gov. Thomas does not dare to say that the bill he has vetoed would not have been an improved protection to the public health. Instead of this, he maintains it is better for quackery to ramp and for fools to be duped and even done to death than to raise the standard of a profession which has more to do with the weal of mankind than all the others combined. He derides the medical profession and adds insult to injury, yet he will seek to tear it down rather than to make it better. He has vetoed a measure the like of which has proved acceptable to the people of thirty-one states and territories, none of which, perhaps, had a governor like ours, however, with a brain more massive than the combined intellect of the whole legislature.

Will the decent and sensible people of the state uphold his excellency in sanctioning dense ignorance and blatant quackery and the obtaining of money under false pretenses? We think not.

DR. JOHN RANSOM HAMILL.

Do not be alarmed, friends of Dr. Hamill. This is not an obituary notice, as might be expected, but only a notice of his change of base.

We regret to say that Dr. Hamill has resigned his professorship of Ophthalmology in the Chicago Clinical School, as well as his position as assistant surgeon to the Illinois Charitable Eye and Ear Infirmary, the latter of which he has held with credit to himself for four years past.

Since its organization Dr. Hamill has been closely identified with the Chicago Clinical School and it is a popularly known fact that no teacher or professor was more prompt, careful, exact, nor had a larger clinic than Dr. Hamill. We sincerely regret to lose so valuable and able a teacher, and trust he will meet with all the success in his new field of labor his ability deserves. We are informed that he intends locating in Des Moines, Iowa. To the profession of that city we most heartily commend Dr. Hamill as a competent and thoroughly capable ophthalmologist.

LARYNGOLOGICAL ASSOCIATION.

The twenty-first annual congress of the American Laryngological Association, under the presidency of Dr. W. E. Casselberry of Chicago, was held in Chicago on May 22, 23 and 24. The sessions of the scientific program were held in the hall of the Chicago Medical Society in the Stewart building.

The program was one of unusual excellence, particularly to those interested in that specialty. Almost all of the members whose names appeared upon the program were present and the discussions of the papers were generally animated and interesting.

In the evening of the first day President Casselberry tendered to the visiting fellows and some invited guests from the Chicago profession a reception at his elegant home on Calumet Avenue. On the second day a luncheon was given the visiting fellows by Drs. Brown and Hardie, and in the evening of the same day Dr. E. F. Ingals gave a dinner.

Three new members were elected to fellowship in the association.

The committee on nominations made the following recommendations, which were unanimously adopted, and those so referred were elected:

President—Dr. Samuel Johnson of Baltimore.

Vice-Presidents—Dr. T. A. De Blois, Boston, and Dr. M. R. Brown, Chicago.

Secretary—Dr. H. L. Swain, New York.

Librarian—Dr. J. H. Bryan, Washington.

Next place of meeting, Washington, D.C.

THE STANDARDIZATION OF DRUGS.

How often does it occur that the physician, having made a correct and careful diagnosis, prescribes his remedy, and, notwithstanding it has been taken according to directions, he fails to realize the expected results in his patient? This may sometimes occur as an idiosyncrasy in the patient, but is it not much more likely to be due to a substandard medicinal quality in the drug itself?

There have appeared recently in several of the leading medical journals various articles on the different phases of the scientific and practical standardization of drugs. In the "Journal of the American Medical," for January 7 last, many of these features were pointed out, showing positively that there was much chance for error, as well as opportunity for deception, in each step in the preparation of the drug, from the gatherer of the crude plant up to the extraction of the alkaloid, and even in its sale by the wholesaler to the pharmacist and in his use of it in the prescription. The writer then says: "How shall this great element of uncertainty in our treatment of patients be avoided? How long shall we be content to have that which our best judgment dictates seemingly proved faulty by the use of pure drugs instead of poor brains? Recognizing that these possibilities exist, the Committee of Revision of the last Pharmacopœia directed that certain products, as, for example, nux vomica, should have a known content alkaloid, to be determined by assay; and, this much having been done, it is hoped that the next committee will go further, owing to the advances made in chemic analysis during this decade.

"There are, however, certain drugs which, because of their complex nature or our faulty technic, cannot be tested satisfactorily by chemic means, and, as ill fortune will have it, nearly all of these are powerful remedies, poisonous in overdose and depended upon in emergencies by every one of us. The chief ones are digitalis, strophanthus, ergot and cannabis indica."

But it will be objected that such drugs as cannabis indica, digitalis, aconite, ergot and strophanthus are not susceptible of chemical test and that chemistry has thus far failed to elaborate trustworthy means of measuring the quantity of active constituents of the degree of medicinal strength in a given parcel. Very true; the chemist is indeed helpless in the presence of certain important drugs, but not so the pharmacologist. Where the chemical test forsakes us we may fall back upon the pharmacological test on the living animal, and the elaboration of physiological assay methods is the latest and most signal triumph of the pharmaceutical laboratory.

We might cite you no end of literature supporting standardization, but we forbear, as not a single objection can be urged which is of weight beside the supreme consideration that medical practitioners demand and must have preparations of which a given dose can always be trusted to exert a given effect. What would you say to the manufacturer who offered you an unstandardized antitoxin for the treatment of diphtheria? You would resent such a haphazard, hit-or-miss and uncertain method. But can you afford to be less exacting with ergot when facing some desperate emergency? Are digitalis, strophanthus and cannabis indica such mild and innocent drugs that it matters not whether a given parcel of fluid extract or tincture be two or five times as powerful as a previous lot bearing the same maker's label? And are you content to take your chances simply because certain drugs are unamenable to chemical assay, when you know that the pharmacological test is abundantly accurate and reliable?

With all our boasted progress and enlightenment it is an unfortunate and unassailable truth that scores and hundreds of conscientious practitioners have wholly re-

nounced the use of such powerful drugs as ergot and cannabis indica in the disgust and chagrin inspired by frequent failure to obtain curative results, by the utter worthlessness of many of the preparations on the market, by the inferiority of numerous parcels and by the equally dangerous potency and toxicity of yet others occasionally encountered when least expected. There has been no uniformity, no certainty—only doubt and distrust, culminating in the extinguished or lessened vogue of a useful agent.

Be the means of standardization what they may, every preparation of every powerful drug must be adjusted to fixed standards if the requirements of modern medicine are not to be ignored and scouted. Sooner or later this principle of standardization will be practically recognized by every Pharmacopœia, and in no partial or grudging manner, but broadly and freely. And the day is bound to be hastened by the enactment of laws forbidding the adulteration of foods and drugs and demanding official standards of strength, quality and purity. Such laws are multiplying. A federal measure is no remote probability. One has already been drafted. The execution of these laws in respect to drugs will demand the establishment of fixed standards, and if the latter are not formulated by the Pharmacopœia of 1900, that great work will simply renounce a wide sphere of salutary authority.

There is indeed one great difficulty in the way of reform which cannot be underrated, and the weight of which must be candidly admitted. Let us not gloss over it, but look it squarely in the face. There is only a hope that the principle of physiological standardization, powerful and true, and salutary and beneficent, as it is, will ever gain admission into the Pharmacopœia! Why? Because physiological assay methods cannot possibly be applied to the small operations of the educated, but non-manufacturing, pharmacist; and it is the unwritten law of the Pharmacopœia to exclude that which can profit, not the great body pharmaceutic, but the large manufacturer. Better far to center all agitation and discussion on the practicable—on the further application of the principle of chemical standardization already recognized in the Pharmacopœia. To chinchona, opium and nux vomica let now be added all toxic, powerful or important drugs susceptible of chemical assay—belladonna, calabar, gelsemium, hyoscyamus, ipecac, stramonium, veratrum and the others enumerated in the fifth paragraph of this letter. Let the United States Pharmacopœia likewise provide a definite test for the anti-diphtheritic serum as a concession to its incontestable merit, its wide employment and its established status.

As for the great principle of physiological standardization, we shall certainly continue to proclaim, in season and out of season, our conviction of its value—nay, its absolute necessity—in the manufacture of the serums and of preparations from drugs like ergot, which can be judged only by their reaction on living tissue. In this inspiring work we know that we cannot and ought not to look to the Pharmacopœia for help, and for that very reason we will give our efforts to the dissemination of sound ideas respecting the advantage to the physician of preparations physiologically assayed.

M.

THE ROBERTS LYMPH TREATMENT.

During the last month the daily papers have, from time to time, exploited a new discovery for rejuvenating the aged and standing off the undertaker, by the employment of a secret formula popularly and jocularly known and denominated "goat juice," presumably from the fact that it is alleged to be a lymph serum derived from the agile capricornus. The claims made for the new treatment are startlingly novel, and we may add, highly improbable. Dr. Roberts, who,

by the way, quite appropriately hails from that medical and lymph-producing center, Green City, Mo., claims to derive and keep alive for an indefinite time living cells from the lymphatic system of a young goat, such living cells being preserved in the form of a lymph compound, which compound he claims is a specific for senility, rheumatism and many other chronic and heretofore incurable conditions and diseases.

He claims to have cured 800 patients without a single failure and cites a rheumatic nurse and a sexagenarian baseball player as examples of the efficacy of the treatment in Chicago.

Its birthplace lends it no prestige, since it originated in the state that gave birth to such as "the school of osteopathy," the "school of magnetic healing," and other fakes and fads. It has, nevertheless, interested some hitherto respectable and reputable members of the profession to the extent of lending it their names and influence to extend its use in a way that does not seem strictly ethical, notwithstanding the ingenuous statement that "this lymph treatment is being introduced in a strictly ethical manner," i. e., by establishing sanitariums for the use of a secret formula or compound; selling the right to use it in certain localities; teaching its use to physicians for a certain sum, etc.; ethical, forsooth, along the same lines as the Keeley cure institutes, the hernia injection specialists, etc.

It may be a great scientific discovery and may contain valuable germs of truth, as well as various other germs, but its methods of promotion and publicity savor very strongly of charlatanism, faddishness and medical commercialism. "Goat juice" may be a good thing to rejuvenate old sports and revitalize senility, but I fear the claims will prove as fugacious as the seminiferous service of the billy-goat.

The law of Muller, that like tissue or cells produce tissues or cells similar to the parent structure, precludes the possibility of raising feathers on a dog or hair on a pigeon, and while the union of the germinal cells of an ass and a mare produce a mule, as Emory Storrs once said, it is without pride of ancestry or hope of posterity.

D. A. K. S.

THE ILLINOIS STATE MEDICAL.

The meetings, as announced in our last issue, was held on May 16-18, at Cairo, the jumping off place of the earth. It was scarcely expected that the attendance would be as large as usual on account of the meeting-place being so far south, but much to the surprise of nearly everyone the attendance was over one hundred and fifty.

A glance at the program would lead one to expect that Chicago intended being the "whole show," but in this we were likewise disappointed, for a goodly percentage of the attendance was from outside of Cook County. So, too, it must be admitted that the best papers read, or at least those which produced the most favorable comment, were read by men who practice far from the laboratories and clinics of the metropolis. It would be impractical to mention in particular any one or more of the papers which attracted particular attention; suffice it to say, one of those most appreciated we are much pleased to present to our readers in another part of this issue. We trust the reading of it will give you half the pleasure we derived in hearing it.

The meeting was opened with the usual addresses of welcome and responses.

The first paper on the scientific program was the address on Medicine by Prof. Geo. F. Butler, of Chicago, who chose for his topic, "Therapeutics; Past, Present and Future." Unfortunately, most of the members, on account of the late arrival of the trains, missed this unusually interesting and practical address. The same will doubtless appear in an early number of Editor Butler's "Standard," at which time we will at least promise our readers a lengthy abstract.

The remainder of the day was occupied

by the scientific papers on the program, many of which were really of exceptional merit. Dr. A. C. Cotton, of Chicago, presides as chairman of the section, and Dr. H. W. Woodruff of Joliet as secretary. We hope to present our readers with a number of the best papers read at the meeting in our issues of June and July.

In the evening of the first day at the Opera House, Dr. J. F. McAnally presiding, President Pitner delivered his address, taking for his topic, "Currents and Counter Currents in Medicine." The address was well received and, notwithstanding the heated weather, held the attention to the end. With this address, and to supply the vacancy on the program, caused by the absence of Dr. A. R. Reynolds, who was scheduled to deliver the address of Section III, a supplementary musical program was supplied by local talent. This was somewhat impromptu, but from its character and quality one would have supposed it to be the result of months of preparation. The vocal numbers given were certainly of rare and exceptional worth, and were most highly appreciated by all present.

It was anticipated that the report of the legislative committee would cause some discussion and comment if not some formal action on the part of the society, but the report of the committee was adopted as read, with practically no public discussion.

Wednesday and a part of Thursday were taken up with the reading of the papers of the Surgical Section, Dr. Walter Van Hook, chairman, presiding, and Dr. E. M. Sutton acting as secretary.

A resolution was introduced by Treasurer Geo. N. Kreider looking toward the journalizing of the proceedings of the society. Further notice of this will be found in another column of this issue. The resolution was referred to the judicial council with power to act.

In the evening of Wednesday the annual dinner was held at the Halliday House. The menu was excellent and appetizing; the ladies charming, handsome and entertaining; the decorations of the room beautiful; the toastmaster most gracious and witty, and the speeches worthy a wider hearing. Dr. Patrick was at his best, and that means much. Dr. Butler gave us a lengthy toast in verse, most admirably adapted to his topic, "The Doctor's Wife;" Hon. W. N. Butler, of Cairo, gave many points of interest and information concerning Cairo. Dr. De Courcy made for himself a new record, and no one who listened can forget his clean cut, decisive expression, his well rounded figures of speech and the unique eloquence of his free and easy delivery.

Wednesday afternoon, through the kindness of Mr. Halliday, a number of the visitors present enjoyed a boat ride for three hours on one of the river steamers.

Thursday morning the committee on nominations made the following report for officers for the coming year, which was unanimously adopted by the society: President, Dr. H. N. Moyer, Chicago; vice-presidents, Dr. J. F. McAnally, Carbondale, Dr. Weller Van Hook, Chicago; secretary, Dr. E. W. Weis, Ottawa; treasurer, Dr. Geo. N. Kreider, Springfield.

Next place of meeting Springfield, it being the semi-centennial meeting, and inasmuch as Springfield was the birthplace of the society, it was for sentimental reasons taken there.

RUSH MEDICAL.

President W. R. Harper at the Rush Medical college banquet at the commencement held at the Auditorium, May 25th, declared that before another year rolled by Rush would be in a new $100,000 building, or such a structure would be under way. He also announces the division of the year into four quarters—the system employed at the University of Chicago—and the addition of many elective courses next year. One other thing on which Dr. Harper laid stress

was the raising of entrance conditions. The requirements will be put up until a two-year college course will be demanded of applicants for admission to the lectures. This will be done gradually.

Three hundred and seventy-five persons sat down to the banquet, which was held at the Auditorium.

Changes in the faculty were announced as follows: Dr. A. D. Bevan to be in charge of the department of surgery instead of the anatomical department, and associate professor, with a salary of $2,000; Dr. Frank Billings to be dean of the senior class; Dr. J. M. Dodson to be dean of the junior and sophomore classes and Dr. A. D. Bevan of the freshman class; Dr. J. C. Webster, McGill University, Montreal, Canada, to be professor of obstetrics and gynecology; Dr. Christian Fenger, Northwestern Medical School, to be professor of clinical surgery.

Several other changes will be announced in the teaching corps of the junior faculty, in the near future; all of which it is hoped will materially add to the reputation for good work which Rush already enjoys in a very distinctive degree.

THE COLUMBUS MEETING.

Quite a number of us are no doubt looking forward with a great deal of pleasure to the meeting of the American Medical Association, which convenes in Columbus, O., June 6th, and, of course, are considering the best means of reaching Columbus. I have had occasion to make inquiry and find that the Erie lines have a through sleeper, leaving Chicago daily at 9:20 p. m., arriving at Columbus next morning at 7:00 Sleeper does not go beyond Columbus, and, of course, there would be no hurry about getting up, should we care to remain in our berths later than the hour named. On the return trip the service is equally good, through sleeper leaving Columbus at 8:30 p. m., arriving in Chicago following morning at 7:35 a. m.

I understand the rate will be one fare for the round trip, or from Chicago, $8.35, and that tickets at this rate will be on sale June 2d, 3d and 5th, limited for return to June 13th. By calling on Mr. Warrell, at 242 South Clark street, no trouble will be experience in having sleeping car accommodations reserved, and any further detailed information that might be desired concerning the trip.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

The date of the next meeting of this association, to be held in Chicago, has been changed from September 12 to 15 to October 3 to 6 inclusive. The autumn fête, to be known as the American Festival, will be held in Chicago, beginning September 25 and ending October 9, with the laying of the cornerstone of the Federal building, when the president and the cabinet will be in the city. During this time the railroad fare to Chicago from all points will be a flat one-fare rate for the round trip, without the necessity of certificates or signatures. The limit of the tickets is so long that a protracted stay can be made in Chicago in order to take advantage of the clinical facilities of the meeting as well as to enjoy the added attractions of the festival.

Chairman of the committee of arrangements, Dr. Moyer, has the plans well in hand and much of the necessary detail has already been completed. Everything possible is being done to make the meeting the most noted one in the history of the society.

The refusal of the auditor of the war department to O. K. the bills of hospitals for the care of sick or wounded, who were detained after the muster out of their regiments on account of such disability, may be technically according to law, but that it is in accord with humanity, or the desires of the taxpayers, who pay the bills, or that it would tend to increase patriotism, no sane man would for a moment believe.

ABSTRACT.

Illinois State Board of Health.

The following is the much discussed new substitute for the late medical practice act of the State of Illinois:

An act to regulate the practice of medicine in the State of Illinois and to repeal an act therein named.

41ST ASSEMBLY.

Passed Senate March 28, 1899. Passed House April 13, 1899. Approved April 24, 1899. In force July 1, 1899.

Section 1. Be it enacted by the people of the State of Illinois represented in the General Assembly: That the State Board of Health shall organize within three months after the passage of this act; it shall procure a seal and shall receive through its secretary applications for certificates and examinations. The president and secretary shall have the authority to administer oaths and the board to take testimony in all matters relating to its duties.

2. No person shall hereafter begin the practice of medicine, or any of the branches thereof, or midwifery, in this state without first applying for and obtaining a license from the State Board of Health to do so. Application shall be in writing and shall be accompanied by the examination fees hereinafter specified, and with proof that the applicant is of good moral character. Applications from candidates who desire to practice medicine and surgery in all their branches shall be accompanied by proof that the applicant is a graduate of a medical college or institution in good standing, as may be determined by the board. When the application aforesaid has been inspected by the board and found to comply with the foregoing provisions, the board shall notify the applicant to appear before it for examination, at the time and place mentioned in such notice.

Examinations may be made in whole or in part in writing by the board, and shall be of a character sufficiently strict to test the qualifications of the candidate as a practitioner. The examination of those who desire to practice medicine and surgery in all their branches shall embrace those general subjects and topics, a knowledge of which is commonly and generally required of candidates for the degree of doctor of medicine, by reputable medical colleges in the United States. The examination of those who desire to practice midwifery shall be of such a character as to determine the qualification of the applicant to practice midwifery. The examination of those who desire to practice any other system or science of treating human ailments who do not use medicines internally or externally, and who do not practice operative surgery, shall be of a character sufficiently strict to test their qualifications as practitioners. All examinations provided for in this act shall be conducted under rules and regulations prescribed by the board, which shall provide for a fair and wholly impartial method of examination: Provided, that graduates of legally chartered medical colleges in Illinois in good standing, as may be determined by the board, may be granted certificates without examination.

3. If the applicant successfully passes his examination, or presents a diploma from a legally chartered medical college in Illinois in good standing, the board shall issue to such applicant a license authorizing him to practice medicine, midwifery or other system of treating human ailments, as the case may be: Provided, that those who are authorized to practice other systems cannot use medicine internally or externally or perform surgical operations: Provided, further, that only those who are authorized to practice medicine and surgery in all their branches shall call or advertise themselves as physicians or doctors: And provided, further, that those who are authorized to practice midwifery shall not use any drug or medicine or attend other than cases of labor. Such license shall be in such form as may be determined by the board, and in accordance with the provisions of this act: Provided, however, that any willful violation on the part of an applicant of any of the rules and regulations of the board governing examinations shall be sufficient cause for the board to refuse to issue a license to such applicant. Such certificate shall be signed by all members of the board and attested by the secretary.

4. Every person holding a certificate from the State Board of Health shall have it recorded in the office of the clerk of the county in which he resides or practices

within three months from its date, and the date of recording shall be indorsed thereon. Until such certificate is recorded, as herein provided, the holder thereof shall not exercise any of the rights or privileges conferred therein. Any person practicing in another county shall record the certificate in like manner in the county in which he practices, and the holder of the certificate shall pay to the county clerk the usual fee for making the record. The county clerk shall keep, in a book provided for the purpose, a complete list of the certificates recorded by him, with the date of the issue of the certificate. The register of the county clerk shall be open to public inspection during business hours.

5. The fees for examination and for a certificate shall be as follows: Ten (10) dollars for examination in medicine and surgery, and five (5) dollars for a certificate if issued. Five (5) dollars for an examination in midwifery and three (3) dollars for a certificate if issued. For all other practitioners ten (10) dollars for an examination and five (5) dollars for a certificate if issued.

6. The State Board of Health may refuse to issue the certificates provided for in this act to individuals who have been convicted of the practice of criminal abortion, or who have by false or fradulent representation obtained or sought to obtain practice in their profession or by false or fraudulent representation of their profession have obtained or sought to obtain money or anymoney or anything of value, or who advertise under names other than their own, or for any other unprofessional or dishonorable conduct, and the board may revoke such certificates for like causes: Provided, that no certificate shall be revoked or refused until the holder or applicant shall be given a hearing before the board.

7. Any person shall be regarded as practicing medicine, within the meaning of this act, who shall treat or profess to treat, operate on or prescribe for any physical ailment or any physical injury to or deformity of another: Provided, that nothing in this section shall be construed to apply to the administration of domestic or family remedies in cases of emergency, or to the laws regulating the practice of dentistry or of pharmacy. And this act shall not apply to surgeons of the United States army, navy or marine hospital service in the discharge of their official duties, or to any person who ministers to or treats the sick or suffering by mental or spiritual means, without the use of any drug or material remedy.

8. That any itinerant vender of any drug, nostrum, ointment or appliance of any kind intended for the treatment of diseases or injury, or who shall, by writing or printing, or any other method, profess to the public to cure or treat disease or deformity by any drug, nostrum or application, shall pay a license of one hundred (100) dollars per month into the treasury of the board, to be collected by the board in the name of the people of the State of Illinois, for the use of said board. And it shall be lawful for the State Board of Health to issue such license on application made to said board, said license to be signed by the president of the board and attested by the secretary, with the seal of the board; but said board may for sufficient cause refuse said license. And such itinerant vender, who shall, by writing or printing, or any other method, profess to cure or treat disease or deformity by any drug, nostrum or appliance without a license so to do, shall be deemed guilty of a violation of this section, and upon conviction shall be subject to the penalties hereinafter provided.

9. Any person practicing medicine or surgery or treating human ailments in the state without a certificate issued by this board in compliance with the provisions of this act, or any itinerant vender violating the provisions of Section 8 of this act, shall for each and every instance of such practice or violation forfeit and pay to the people of the State of Illinois, for the use of the said Board of Health, the sum of one hundred (100) dollars for the first offense and two hundred (200) dollars for each subsequent offense, the same to be recovered in an action of debt before any court of competent jurisdiction; and any person filing or attempting to file as his own the diploma of or certificate of another, or a forged affidavit of identification, shall be guilty of a felony, and upon conviction shall be subject to such fine and imprisonment as are made and provided by the Statutes of the State for a crime or forgery: Provided, that this section shall not apply to physicians who hold unrevoked certificates from the State Board of Health issued

prior to the time of the taking effect of this act.

10. Upon conviction of either of the offences mentioned in this act the court shall, as a part of the judgment, order that the defendant be committed to the common jail of the county until the fine and costs are paid, and upon failure to pay the same immediately the defendant shall be committed under said order for first offense not more than thirty (30) days, and for each subsequent offense not more than ninety (90) days: Provided, that either party may appeal in the same time and manner as appeals may be taken in other cases, except that where an appeal is prayed in behalf of the people, no appeal bond shall be required to be filed, whether the appeal be from a justice of the peace or from the county or circuit courts, or from the appellate court. But it shall be sufficient in behalf of the people of the State of Illinois, for the use of the State Board of Health, to pray an appeal, and thereupon appeal may be had without bond or security.

11. On the 30th day of September of each year the State Board of Health shall make a report of its proceedings, showing all items of receipts from all sources and disbursements for all purposes, and all funds in the treasury on said date which have been received in the enforcement of this act shall be paid into the State Treasury.

12. An act to regulate the practice of medicine in the State of Illinois, approved June 17, 1887, in force July 1, 1887, and all other acts and parts of acts inconsistent with this act are hereby repealed.

Dr. Huber's Discovery.

The following report from Ann Arbor contains statements that are important, if true:

New honor has just been brought to the medical faculty of the University of Michigan by the results of the research of Dr. Karl Huber. For a long time it has been an undeniable physiological fact that the nerves control the blood vessels of the body, but the best physiologists have always questioned the existence of any nerves controlling the blood vessels of the brain. It remained for Dr. Huber to make this important discovery, which will cause a number of pages in the standard works on anatomy and physiology to be torn out. At present, the methods of treating the cases which this discovery will affect are empirical, but the fact which Dr. Huber has given to the world will put medical knowledge and treatment of such complaints as apoplexy, epilepsy and various forms of headache on a logical and scientific basis Thus it is made possible for intelligent experiments to be made with a view of improving the present methods of treatment of the above diseases. Dr. Huber has prepared an article on his discovery which will be published this month.

A Mechanical Method of Treating Sciatica. The Hodgen Splint.

By C. C. Hunt, M. D. So far as is known, neuritis, perineuritis, or both, is the pathological condition in the vast majority of cases of sciatica met with in general practice.

Immobilization, in whole or in part, of the hip joint, by any kind of splint, as recommended by S. Weir Mitchell, is not "the essential matter" in the treatment of these cases.

Functional repose, physiological rest, effected by suspension and extension, is an essential feature.

This is best accomplished by the Hodgen splint properly applied.

Passive motion at the hip joint is painless and harmless within a few hours after splint is adjusted, and it may aid recovery in some cases.

The Hodgen splint admits of passive motion at all times, does not materially interfere with movement of bowels, with massage, or with other local treatment, or with the toilet of the bed or body of the patient.

Either as principal or as an auxiliary to other therapeutic means, it has proven to be an exceedingly valuable agent in bringing about satisfactory results, especially in the quick relief from pain.

The Surgery of the Puerperium.

By Denslow Lewis, M. D. Definitions and statement of facts regarding danger of infection in puerperio. Advisability and danger of examination of a puerpera. Postpartum hemorrhage not always due to imperfect uterine retrac-

tion. If excessive or persistent examination is imperative and surgical relief often indicated. Vaginal and perineal lacerations should be immediately closed, usually by sutures within the vagina.

When infection occurs, advisability of examination should be carefully considered. Uterine douche usually sufficient when details of labor are known. Description of normal puerperal convalescence and diagnosis of infection. Infection around perineal stitches and of vaginal wounds are treated by peroxide of hydrogen. Also infected wounds of portio vaginalis.

Infection of endometrium is putrid or septic. Exercise of judgment important if douche is insufficient. Care of the phagocytic barrier. When infection extends beyond endometrium phagocytic barrier may be disregarded, for it has failed in its object. Possibility of embolism and metastatic abscess formation should be remembered, but source of infection is still within the uterus and our chief endeavor is its removal.

Pus should be evacuated. It should be looked for in vaginal fornix and often vagina should be cut. Abscess should be opened where most convenient. Ecto-peritonitis is treated as other extra-peritoneal abscesses. Circumscribed collections of pus within the peritoneal cavity should be treated as extra-peritoneal abscesses. Care should be taken not to break down adhesions. Suppuration within peritoneal cavity should be treated by abdominal incision even if not extra-peritoneal. Sometimes vaginal, other times Mikulicz drainage. Relative indications in peritonitis. Any interference with regular bowel movement often an indication for section. Excessive tympanitis not of itself an indication.

Hysterectomy especially dangerous in puerperio. Not to be done for retained placenta, rarely for infection or thrombophlebitis. Often inadvisable when metastatic abscesses have occurred. Always to be done when suppuration circumscribes uterus and it is probable that uterus is seat of pus formation. Imperative if uterus is an obstacle to adequate drainage or uterine tissue disorganized. Vaginal method favored if abscesses around uterus are operated by vaginal cut. Technique often necessarily inexact. Extra-peritoneal method of Lawson Tait to be remembered as easy of execution and productive of good results.—Van Hook.

The American Electro-Therapeutic Association.

The ninth annual meeting of the American Electro-Therapeutic Association will be held in Washington, D. C., on September 19, 20 and 21, 1899, under the presidency of Dr. F. B. Bishop of Washington.

Quite a number of papers of great scientific value have been promised and the Committee of Arrangements assures the members a very entertaining and pleasurable meeting. Aside from the sessions of the association, the committee has completed arrangements for a trip to Mt. Vernon, one to Arlington and several other social features.

The headquarters of the association will be at Willard's Hotel, where special rates will be given to members and their families during the meeting.

UTRO-OVARIAN PAIN.

Prompt relief, unaccompanied by habit or untoward after-effect, is what the up-to-date practitioner desires most in these cases. If the pain is over the lower border of the liver, or lower part of the stomach, or, in short, be it headache, sideache, backache or pain of any other description, caused by suppressed or irregular menstruation, it will yield to two five-grain tablets of Antikamnia. This dose may be repeated in an hour or two, if needed. For very prompt relief it is advisable to crush the tablets and swallow them with a little wine, diluted whisky or toddy.—Ohio Medical Journal.

As was noted last month as probable, the "North American Practitioner" practices no more. It has been purchased, soul, body and subscription list, by the "Medical Standard" and will be hereafter edited by Dr. Geo. W. Butler in connection with and as a part of the "Standard."

ITEMS.

The Erie Railroad is making unusually desirable arrangements for the transportation of physicians to the meeting of the American Medical Association at Columbus next month. They invite correspondence or communication by telephone with their office at 242 South Clark street.

Time heals all wounds; the trouble is, however, our time on this planet is limited.

The graduating classes in almost all of the medical colleges are larger this year than for several years past.

A good general practitioner can find an exceptional opening by addressing Dr. A. Striemer, Wilmot, S. D., for particulars.

The American Association of Physicians and Surgeons will hold its ninth annual meeting in Chicago May 31 to June 3, inclusive.

A combination of some of the St. Louis medical colleges is said to be threatening. Stranger things than a similar occurrence might happen in Chicago.

The chair of gynecology in the Chicago Polyclinic, nominally filled by the late Dr. Etheridge, has been filled by the election of Dr. H. P. Newman to the place.

Dr. F. E. Waxham has betaken himself abroad, not for study, but for a much needed rest and recuperation. We sincerely hope the doctor will find even more of this very necessary article than he anticipates.

All indications point to an unusualy large meeting at Columbus. Many new men are contemplating attendance, and a large majority of the older members will be accompanied by their wives or families.

The commencement exercises of Rush Medical College were held at Studebaker Hall, in the Fine Arts building, on May 26. The degree of doctor of medicine was conferred on 167 graduates of the class of 1899. Fellowships and medals were awarded as follows: Fellowship in pathology to H. Gideon Wells, fellowship in chemistry to Oscar Theodore Roberg, fellowship in cutaneous pathology to Howard T. Ricketts, the Benjamin Rush medal to John Fulton Roe, the J. W. Freer medal to Oscar A. Dahms and the Daniel Brainard medal to James Harmon Fowler.

It is currently reported that Dr. J. C. Webster of McGill University, Montreal, has been elected to fill the chair of gynecology and obstetrics in Rush Medical, made vacant by the death of Prof. J. H. Etheridge.

Dr. Reuben Ludlam, president of the Hahneman Medical College, Chicago, died very suddenly recently, as the result of heart paralysis coming on while he was engaged in operating on a patient in Hahneman Hospital. He lived only about ten minutes after the stroke.

The College of Physicians and Surgeons, Chicago, has this year a graduate in the person of Mrs. Maria A. Fellows, a colored woman, who is as well educated and charming in manner as she is plucky. She speaks German fluently and is an accomplished musician.

On other pages of this issue will be found the complete text of the new medical practice act which will become a law on July 1. That it is open to some criticism no one will for a moment deny; that it is as good as was obtainable at the time is possibly true; that we must take it for what it is, good or bad, is undeniable. Next month we will likely have something editorially to say of the bill and its provisions.

The third International Congress of Gynecology and Obstetrics will be held in Amsterdam from the 8th to the 12th of August, this year. The leading questions for discussion will be: 1. Surgical treatment of fibromyoma. 2. The relative value of antisepsis and improved technique for actual results in gynecological surgery. 3. The influence of posture on the form and dimensions of the pelvis. 4. Indications for Cæsarean section compared with those for symphyseotomy, craniotomy and premature induction of labor. A large number of leading gynecologists and obstetricians in Europe and America have signified their intention of being present and participating in the scientific work of the Congress. English, French, German and Italian will be the official languages.—Recorder.

MODERN THERAPY.

BISOL.

Elegance in pharmacy often will achieve a success for the physician which is unattainable by even the greatest ability or painstaking care on his part. Particularly is this true in pediatric practice. When one intestinal astringent can be given in a pleasant and palatable solution, while another also with desirable therapeutic action is unsightly and distasteful, there certainly is no question as to which should be chosen. For these reasons a soluble form of bismuth, known as Bisol, is a most desirable drug at this time of year, in the treatment of the numerous gastro-intestinal disorders of the little ones. It is a salt, virtually harmless, which is prescribed in smaller doses than the older series of bismuth salts (3-7½ grains), and has the additional advantage of forming a perfectly clear solution in water. It has been found highly efficacious also in the diarrheas of typhoid, of dysentery and of phthisis. In gastralgia and vomiting it is of the greatest service. By adding tannin to a solution of Bisol there may be prepared a moist tannate, or a salicylate of bismuth stronger by far than the usual forms of these drugs, in that they contain more tannin or more salicylic acid, and besides seem to possess a power which may be compared to that of a substance in the nascent state.

KRYOFINE.

The anodyne properties of Kryofine are so marked as to render it a drug of incalculable value in all conditions attended by pain. More especially is it efficient in febrile diseases, since it also acts as a prompt and safe antipyretic. In addition it induces a marked sense of well-being, of euphoria. Under its influence pain, delirium, high temperature and restlessness disappear to give place to calm, peaceful and recuperative sleep. An important feature, also, is that it can be administered in an elegant and palatable solution and combined with other drugs that may be desirable in the individual case. The dosage is small, 4 to 7½ grains.

"VIN MARIANI" is essentially the brain and nerve tonic of those who have talent and genius. These it is who compose the great army of intellectual workers, and the ravages made upon their nervous systems by the demands made upon them are at times truly appalling. This damage and consequent drain yield to nothing more quickly than to "Vin Mariani." The most noted European physicians, literateurs, musicians, singers, artists and diplomats have sent the most flattering letters to M. Mariani, extolling his product. Not only these, but crowned heads as well have been mentally invigorated and rejuvenated by "Vin Mariani" and never tire of speaking words in its praise. It must be acknowledged that unsolicited testimonials, couched in such glowing terms, from such sources, are the best evidence possible that can be offered for the merits of the preparation. When "Vin Mariani" becomes as well known in this country as it is in Europe, it will be adopted as one of the indispensable remedies in the household.—The St. Louis Medical and Surgical Journal, May, 1899.

REMOVAL NOTICE.

On and after May 1, 1899, the address of our Chicago office will be Suite 404, Trude building, 67 Wabash avenue, southwest corner of Randolph street. We shall there have improved facilities for serving our friends and invite calls or inquiries.

Our telephone number will be Central 1595. PARKE, DAVIS & CO.

SANMETTO AND IMITATIONS.

I have used Sanmetto extensively for the last five or six years in both old and young, male and female, in all forms of irritation of the urinary organs, from nocturnal enuresis in the young to cystitis in the aged, and have been disappointed in but few cases in obtaining good results. Have tried imitations (owing to their cheapness). The results were unsatisfactory. Have returned to the use of Sanmetto as a sheet anchor in both acute and chronic conditions of the urinary tract. I obtain speedier and more satisfactory results when given four times a day in drachm doses in hot water.

T. B. GULLEFER, M. D.,
Greensburg, Ind. Coroner.

A. H. CORDIER, M. D.

THE CHICAGO CLINIC

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Nephrolithiasis.

By A. H. CORDIER, M. D., Kansas City, Mo.
Professor of Abdominal Surgery, University Medical College, Kansas City, Mo.

A surgical disease that attacks a life essential organ should receive most careful attention, a stone in the kidney being no exception to this rule. In nephrolithiasis the all-important question of early diagnosis is of paramount interest, as upon an early diagnosis and timely surgery depends the relief of existing lesions and symptoms and the prevention of irreparable damage to the organ affected. A diagnosis of a stone's presence in the kidney should not receive only a passing thought, with the too frequent advice to drink lithia water and wait for development.

While I have much faith in the utility of X-rays in locating some forms of stone in the kidney, especially if that stone is a large one, I am sure that to place too much reliance on the negative findings by the rays will be to make many mistakes in diagnosis, and thus prevent many patients from submitting to operative procedures for the relief of existing, but undetected stones. Positive findings are valuable, yet negative discoveries are not conclusive. I am thoroughly convinced that many cases presenting obscure septic symptoms extending over a period of months, or probably years, will have this uncertainty cleared up and the symptoms made to disappear by the removal of a stone hidden away in a kidney, or the opening and free drainage of a small cortical focus of infection. One of the conditions simulating the presence of a stone in the kidney is a movable kidney with a long pedicle, permitting the ureter to become actually bent.

A lady twenty-six years of age, the mother of two children, gave the history of repeated severe pains in right side near the normal location of the kidney. The pains were so severe that large doses of morphine were necessary to relieve her, the pain usually lasting for thirty-six hours; leaving very much tenderness and uneasiness, lasting for a week. It was noticed, at each attack, that there was a swelling the size of the fist in the upper costo-iliac space, the same being quite tender. With the subsidence of the pain, this enlargement disappeared. The pain during the acute attack was as that of a stone to all appearances, in its severity, duration and location. The enlargement, it was plain to be seen, was the right kidney distended with urine.

On examining her during the interval of attack, I found a free mobility of kidney. Operation revealed the true pathology—the kidney was freely movable; dilated as result of urinary retention; the ureter was found bound down at a point that produced a complete closure when the kidney descended. To make doubly sure of my diagnosis the kidney was incised, and carefully explored for stone, but none found; opening in the organ was closed, and the kidney replaced and fixed. It is now one year since the operation, and she has remained free from all painful symptoms, and is in perfect health.

In many cases the diagnosis of renal calculi is easy, while in other cases the symptoms are so obscure that it is impossible to say that a calculus does or does not exist.

When the patient has had recurring attacks of severe pain in region of kidney, passing down the ureter with retraction of testicle on that side, with the presence of blood in urine, absence of tenderness or other symptoms of an acute inflammatory trouble, one may be quite safe in saying that a stone exists.

All cases of nephrolithiasis do not present these typical symptoms; far from it. The largest stone I have ever removed from the kidney (Fig. 1) weighing three ounces, had never produced any severe suffering, only a sense of uneasiness on the affected side, with an abundance of pus in the urine, with the presence of enlargement, which led to the

exploration that discovered the stone. The kidney in this case was saved, but the woman had a urinary fistula for a long time.

Some cases will present only a vague sense of uneasiness in the region of the kidney, and consult the surgeon principally for

RENAL CALCULUS. (FIG. 1.)

the relief of a painful and persistent cystitis. Two or three of my cases have had bladder washings of boracic acid, etc., etc., for months before consulting me. The cystitis has subsided on the removal of the stone and with it the curing of the pyonephrosis. Every case of chronic purulent cystitis, resisting the usual curative treatment faithfully tried, should lead to the most careful investigation of the condition of one or both kidneys.

Blood in the urine as a symptom of calculi is of much diagnostic value, especially if vesical calculi and vascular growths of the bladder be excluded, which can easily be determined, especially in the female. Urethral catheterization under direct cystoscopy in the female will determine the source of the blood, while the ingenious 'segregator" of Dr. Harris will aid in eliciting the same facts in the male. A large phosphatic stone will not be as likely to produce a hemorrhage or severe pain as a small mulberry calculus with its characteristic angularization.

A small stone studded with sharp projections, if free to change its position in the pelvis of the kidney, will produce frequent attacks of pain, the severity and duration depending on the snugness of its impact, and the completeness with which it blocks the ureter. A loose stone will likely be accompanied by an increase of the hematuria on exercise or riding over rough roads. If two or more stones are wedged into the pelvis or calices, and are so situated that the urine may continue to escape naturally unobstructed, an absence of severe pain will be a feature of the case. A stone so situated will in all probability continue to increase in size. Pain and presence of blood in urine are the two most frequent symptoms present in this disease. The pain is usually in the beginning in the region of kidney affected, yet it may extend to either side. This pain varies in intensity from a mere uneasiness to the most excruciating and unendurable agony. The pain may change its position in the progress of the case, depending in a measure on the site of the stone. For instance, if the stone passes through the ureter as it descends, the filaments of anastomosis between the nerves supplying the uterer and the genito-crural may produce a retraction of testicle on that side, owing to the irritation of the nerve supply to the cremaster muscle; the same being true of the filaments supplying the bladder, thus causing that organ to become irritable through sympathy. In females the pain may be referred to the labium, or at the urethral entrance.

In examining a patient in whom a kidney calculus is suspected, every diagnostic resource should be brought to bear in the case. In a patient with a long history of the presence of pus and blood in the urine, following attacks of pain years ago, and the presence of an enlargement in region of kidney is detected, a safe diagnosis in such a case would be nephrolithiasis and pyelonephrosis.

Stones have been removed from the kidney that were so large that they could be felt through the thinned parieties. I have never been able to detect the presence of stones by the grating or rubbing of same together during my examination. The ingenious method of Kelly, that is, the introduction of a urethral catheter, the point of which being covered by wax to receive an impression by contact with a stone, while very unique and artful, certainly has a very limited field of utility and will rarely

be resorted to by the diagnostician.

Malignant diseases of the kidney are rare after early childhood, sarcoma being the disease most frequently found at that period. The carcinomatous growths appearing later in life have traits almost peculiar to themselves, hence can usually be readily eliminated or confirmed in suspected cases. Malarial hemaglobinuria may mislead, but the history of malarial attacks and the use of the microscope will show an absence of corpuscles in the malarial disease.

In making diagnosis of any disease, the symptoms of which are produced by mechanical causes, it is only necessary to apply the usual laws of mechanics as modified by the locality affected, a closely gotten clinical history being essential to this analysis.

Uric acid, I believe, forms the nuclei for most stones; yet, on casual examination, oxalate of lime calculi appear to predominate. This is due to the fact that while uric acid forms the base of the stone, the oxalate and phosphate of lime are deposited like layers of an onion about the uric acid nucleus. Where there is much suppuration, the phosphates may be so abundant that the pus, urine and phosphates make a thin paste.

"In about one in five times stones are found in both kidneys," says one author. I believe this is too high; yet with more careful diagnostic efforts, and more frequent explorations, the truth of this statement may yet be verified. It matters not to what chemical class the stones belong, as long as the indications to be met are the same. Remove them.

Urate of ammonium in infants, uric acid in adults, oxalate and phosphate of lime after forty is the way Greig Smith classifies their frequency. The presence of a stone in a kidney or ureter should be looked upon as a source of danger to the life of the patient and as a constant menace to his well-being from a slow sepsis, pain and chronic uremia, with the ultimate destruction of the affected kidney in a large majority of instances.

In Mr. Morris' cases of early nephrolithotomies, thirty-three in number, he had only two urinary fistulas following, in both of which the kidney was extensively incised to remove large stones. In his late operations for calculous pyonephrosis he had fistula following in 37.5 per cent. Can anyone doubt the propriety and advisability of early operation in these cases, with facts like these presented?

A small stone may form in the uriniferous tubules and escape through the ureter, giving rise to no trouble, or if a little larger may produce the most intense suffering during its passage through the ureter.

Septic micro-organisms may pass through the healthy kidney circulation and escape with the urine, producing no infection of the organ, but if nature's resisting walls be destroyed or weakened, the most destructive invasion may result. A ball valve stone, occluding the entrance to the ureter, may, by its damming up the urine, produce an enormous dilation of the pelvis of the kidney and even the whole organ, thus leading to atrophic changes, destroying its secreting properties, which is an argument for early operation, even for small stones; yet it is surprising to what extent the organ will regain its function after a nephrotomy, even in these large saculated kndneys, that on macroscopical examinations are wholly destroyed. When we recall the safety with which an early nephrotomy may be performed, the fear of ill results from the operation, either immediate or remote, vanish. It would be far better to explore a kidney occasionally in error than refuse this effort at relief in cases in which the diagnosis was doubted, for it must beremembered that many diseases of the kidney simulating stone are relieved by a nephrotomy. An early operation for the removal of a stone before the secreting structures of the kidney are injured, before the pelvis is denuded of its epithelium and infected with pyogenic or other bacteria, is quickly recovered from; in fact, the kidney, being closed without drainage, heals as readily and quickly as the overlying structures.

At the Middlesex Hospital in ten years there were 3,331 post-mortems of death from all causes, and in that number there was found that one and one-half per cent of deaths from all causes was due to the presence of stones in one or both kidneys or ureters.

A small area of infected kidney may give rise to well marked septic symptoms, and yet the presence of bacteria in the urine remain undetected.

Late operations for a calculus pyonephrosis are frequently unsatisfactory, be-

cause in some there will remain a urinary fistula, that persistently refuses to heal, necessitating subsequent operations, either to close the fistula or to remove the kidney. I am thoroughly convinced that in some of my cases of calculus pyonephrosis I have prevented post-operative fistula by carefully and completely curetting the location of the impacted stone, as well as the pelvis and other portions of the kidney seemingly diseased at time of operating. The persistent use of drainage tube or gauze packing is responsible for an occasional post-operative urinary fistula. Keep the ureter patulous by either a long sound, urethral catheter, or by forcing liquids through the ureter, through the lumbar incision. This washes out blood clots and cheesy débris, both often responsible for a ureteral stoppage following an operation on kidney. I have in several of my cases for the first few days following operation, while irrigating the infected kidney, forced the fluid into the bladder, thus showing the patency of the ureter at same time washing away any foreign bodies disposed to occlude this channel.

A precaution necessary to observe in extracting the stone is the avoidance of undue traumatism to the kidney. If pyonephrosis exists, be careful not to destroy any more of the septa than is absolutely necessary, as these partitions contain blood vessels and bleed very profusely when injured; besides they frequently contain much secreting or healthy structures. All obscure cavities or isolated infected foci should be opened at the time of operation. The finger being the best instrument for exploration.

At the time of operating, in one of my cases, I was enabled to dislodge an impacted stone in the ureter—the stone was fully two inches from the pelvis of the kidney, yet by carefully manipulating the ureter the stone was dislodged and forced back into the pelvis and moved through an incision in the convex surface of the kidney. It is always desirable, when possible to do so, to incise the kidney from its convex surface, as the organ heals much more readily, and certainly here, rather than through the pelvis or ureter proper. The hemorrhage in a healthy incised kidney is easily controlled by the fingers during the operation and by sutures and pressure after surgery.

The large vessels at the pedicle should be looked for carefully and avoided. A knife thrust down through the cortex, if care is not exercised, may be pushed through into the large vessels, and a dangerous or fatal hemorrhage induced.

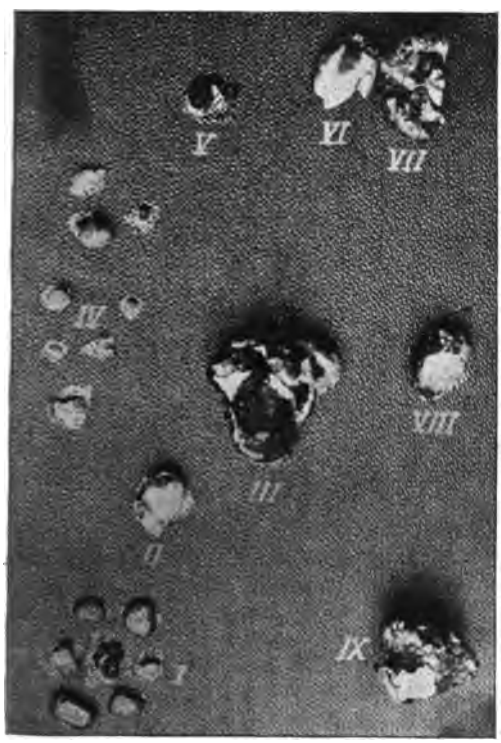
If much difficulty is experienced in checking an alarming loss of blood from a kidney, it can be most effectively checked by packing around the organ, using much pressure with bandages and sandbags. If the case be one requiring drainage, a good sterilized gauze pack into the organ will usually check the oozing and at the same time conduct the urine and pus out through the external opening. This packing should not be left in position longer than thirty-six to forty-eight hours, and all subsequent dressings should be done with very little tight packing, unless it is desirable to keep the external wound open for some time. Too prolonged use of snug packs will be disposed to favor a permanent fistula. It is useless to caution against the dangers of opening the peritoneum in operating on a case of pyonephrosis, as all are thoroughly aware of the fact, and avoid the "sacred sac" in these cases.

If the peritoneum should by accident sustain an injury during the operation, it should at once be repaired most carefully.

Case I.—Nephrolithiasis, Mrs. A., age 43, July 11, 1898. Twelve years ago this patient had an acute cystitis, the cause of which I was unable to elicit. Since that time she has had recurrence of the attacks a number of times. Two years ago she placed herself under my care. At that time she was suffering from a chronic gastritis. Under treatment she improved in health and gained much in weight. One year ago she had an acute attack of cystitis. The urine showed blood and pus, epithelium, etc. Living at a distance at that time, I was able to see her only occasionally; however, her cystitis improved but did not disappear. Two months ago she developed for the first time symptoms pointing to the right kidney. At that time she developed pain in region of kidney, passing pus and blood in urine. An occasional elevation of temperature was also noticed at this time. Pain on pressure over kidney was elicited and an enlargement of the organ could be made out easily. Ureteral catheterization revealed pus and blood coming from right kidney, while healthy urine was collected

from the left; bladder inflamed, especially around the entrance to right ureter.

Diagnosis.—Pyonephrosis due to presence of stone in kidney. Operation revealed correctness of this opinion. Two large stones (see No. VII) were removed from pelvis of kidney and abscess drained through lumbar incision, the wound being packed with gauze. The diagnostic value of urethral catheterization was nicely demonstrated in this case. The stones were



NEPHRITIC CALCULI.

composed of the oxalate and phosphate of lime, as is usually the case in patients after forty years of age. She had never had an attack of renal colic, but had often felt an "uneasiness" in right side over kidney. She recovered nicely.

Nephrolithiasis—Abscess opening into right lung.—Mr. C., age 55. Some ten years ago this man had a severe attack of renal colic (right side) lasting several days. For four or five years he had "uneasiness" and pain in region of right kidney. The pain subsided and he was fairly comfortable for two years. After that time he again had pain, followed by a chill and fever, the latter lasting several months. He developed a "diaphragmatic" cough during this time (due to the abscess burrowing through the diaphragm) and became very much emaciated. One year before I saw him he began expectorating a thin seropurulent material in large quantities, as much as a pint or more daily. Later he developed a sinus in region of right kidney and fluid was discharging from same when I first saw him. His urine showed a trace of albumen, was acid in reaction— abundance of pus, three pints of urine being passed daily. Phosphate in large quantities. A probe introduced into sinus passed eight inches upward, inward and to the left. A diagnosis of nephrolithiasis was made as the primary trouble ten years previous, later an escape of stone from kidney into structures around the organ, thus producing an abscess that subsequently opened into the right lung and later on the surface of loin. The fluid he had been expectorating was urine and pus from right kidney. Operation revealed an old abscess about the kidney and extensive destruction of the organ. An opening with phosphatic lining extended from abscess through the diaphragm into a bronchi of right lung. A stone the size of a filbert (see No. II) was found in the abscess cavity, the same, I believe, that caused his attack of nephritic colic ten years ago. He improved very much for a few months following operation; then the tissues about the wound began to break down and a large surface was destroyed. He died two months after operation.

The sinus into the lung at time of operation was curetted carefully and soon closed with the free drainage in the back to take its place. The urine and pus ceased to flow through lung. This case is interesting: First, that the stone should have remained ten years; second, that so large an amount of urine and pus should have passed through the lung for so long without causing death; third, that the pulmonary symptoms should have all disappeared after the operation. A post-mortem showed that the liver, kidney and other organs had undergone amyloid degeneration, a fact that I believe to have existed before operating, yet I decided to do all I could for him in the face of the unfavorable prognostic truths before me.

Nephrolithiasis.—Mr. K., age 24. This young man, one year ago, while riding,

was taken with a severe pain in right testicle, the pain seeming to originate in the region of right kidney. The pain and retraction of testicle ceased at end of twenty-four hours under large doses of morphia. He remained symptomatically well up to four weeks ago, when while riding he had a recurrence of the pain in testicle, but the pain soon left this point and settled down in region of right kidney and along the course of the ureter of that side. No history of bloody urine, yet no microscopical examination of the urine had been made. In last four weeks he has had almost constant pain, and during the last few days his temperature has run about 101 to 103 degrees. His urine is acid, specific gravity 1,030; no albumen; abundance of phosphates; no blood but few pus cells are present; tenderness over kidney; some enlargement of organ made on palpation.

Operation at University Hospital May 9, 1899. Retro-peritoneal incision angular from curved border of twelfth rib to point near anterior superior spine of ileum. Kidney much enlarged, overlying tissues adherent to the organ. Kidney was incised on convex border and the finger introduced into the pelvis of the organ, which was much dilated and filled with fetid urine and pus. No bleeding of any consequence, yet the organ bled quite freely, as they always do. Finger explored the cavity carefully for stone, but none was found until I began irrigating, when a small stone was washed out. A probe introduced into the ureter passed down four inches with no difficulty; no stone felt. Kidney was packed with gauze and usual dressing applied. Urine flowed freely from incision. Fever and pain subsided at once. At the end of two days, believing that a stone was yet impacted in the ureter, I introduced a catheter into the pelvis of kidney, and by hydrostatic pressure forced a stone, the size of a small mulberry, into the bladder (see No. IV). The patient complained of some pain while fluid was forcing the calculus downward. The fluid (boracic acid) filled the bladder at once. He passed the stone at his second urination and all ureteral obstructive symptoms disappeared. I continued irrigating the pelvis of the kidney, and at the same time forcing the fluid into bladder through ureter daily for a few days. The wound in back was then permitted to heal and his recovery was perfect.

I have in a number of my cases after operating demonstrated the patency or occlusion of the ureter by this method of forcing fluid through the ureter into the bladder. A catheter being introduced into bladder and the fluid colored or otherwise withdrawn. If the patient is awake there is absolutely no danger in this procedure, as the amount of pain complained of will guide the operator as to the time to stop.

Medical Jurisprudence.

By Judge Joseph Daily,
Ex-Judge of the Supreme Court of Indiana, Bluffton, Ind.

INTRODUCER'S PREFACE.

Having the honor, in the absence of the writer, of reading the following essay before the Wells County Medical Society, at Bluffton, Ind., May 9, 1899, and feeling that such a worthy article should not be permitted to be simply cast aside, I present it to the readers of the Clinic. The author is one of the leading jurists of the state, a man who has served as judge of the Supreme Court, who has had wide experience as a counselor at law, who is the physician's friend, a cultured, refined and Christian gentleman. Medical jurisprudence is a neglected study with the average physician, and it becomes our duty to acquaint ourselves with the facts of this science, if we wish to avoid entangling alliances. What is more humiliating than to be placed on a witness stand and endure the cross-examination of a lawyer if you are ignorant of your subject. It seems that the impression is abroad among physicians that a successful practitioner of medicine is, or should be, an expert witness. This is far from being true. If a physician, if ignorant of the subject in hand, has not self-respect enough to stay away from a witness stand, he should at least have enough for the noble profession of which he is a member. It is true that it is easier to ask questions than to answer them, but at the same time it is not our duty to place ourselves in a position, if we can avoid it, where we are unprepared to act.

B. S. Horne, M. D.,
Bluffton, Ind.

The term jurisprudence, in its broadest and most comprehensive sense, means the science of the law; the practical science of giving a wise interpretation of the laws and of making a just interpretation of them to cases that may be pending in the courts for trial.

Medical jurisprudence is that science which applies the principles and practice of the different branches of medicine to the elucidation of doubtful questions in courts of justice.

It is obvious, therefore, that the whole subject of medical jurisprudence is a question of evidence. Many causes pending in the courts can only be determined by recourse to medical knowledge.

The medical expert, when placed on the witness stand, is called upon not only to state medical facts, but also to express an opinion on the special facts of the case under examination. He may be examined as to conclusions of science drawn from particular experiments; he may be questioned as to the health of a particular person whom he has attended; he may be asked his opinion as to the probable cause of the death of a person; he may testify as to the presence of poison in the stomach; as to the nature of the disease a person is afflicted with; as to how long he has been afflicted with it; as to the severity and ordinary duration of the disease, as well as to the probability of its recurrence; its effects upon the general health; the cause of the disease and the remedy for it. He may describe the symptoms of any particular disease, explaining its characteristics, and that it is contagious, if he believes it to be so. An attending physician may be asked whether he saw any appearance of a certain disease in the family of any particular person, and, when an action is one for damages for personal injuries, whether before such injury was inflicted he considered the person to be a hearty and vigorous man. He may state his opinion that a person's ill-health resulted from a certain injury. He may, also, testify as to the extent of certain injuries, whether they are permanent or not, and the probability of recovery, or as to the probable results of such injury.

Important questions often arise in the courts relating to wounds, as to whether such breaches of the skin, or skin and flesh, were inflicted by external violence before or after the death of the person concerning whom inquiry is being made. If a few hours have elapsed either before or after death before the infliction of the wound, medical testimony can reveal the fact. Medical science has discovered that if the wound was inflicted after death the edges of the wound are usually found in close apposition, there is comparatively little effusion of blood, little or no coagulation around the wound, and no evidence of repair. And so in case of gunshot wounds it is possible to say whether the discharge took place near the body, in which case the injured tissues would be more or less scorched, blackened or studded with grains of powder and the entrance would be larger, ragged and excavated. It is likewise possible to show whether a wound was caused by a bullet at full speed, which perforates or penetrates; or whether at lessened speed, which crushes and lacerates the parts. Also whether a wound was produced by a sharp instrument drawn across the part, in which case the edges would be straight; or whether it was caused by a blunt instrument, in which event the edges would be more or less irregular. Medical experts may express an opinion as to the means by which a wound was inflicted and the kind of instrument used; as whether the fractures on the skull of the deceased, produced in court, were caused by blows from a gun shown to the witness; also whether the skin of a person's throat had been cut by a sharp instrument, or torn; that the corner of a hatchet's edge, if held by a person standing in front of the deceased while he was on his feet, exactly fitted the hole in the skull. A surgical expert who has examined a wound may testify whether, from its form and appearance, it could have been produced by a razor, and whether certain injuries to the head could have been produced at the same time and with one blow; also whether the wounds could have been inflicted accidentally, and whether they could have been produced by coming in contact with a body of hard material, where there were no sharp angles or points. A physician and surgeon of experience with gunshot wounds may testify whether a wound was inflicted by a shot from a gun, and may explain to a jury why a wound looks smaller than the ball which caused it. He is competent to testify, from the appearance of a wound through the hand, whether or not it was

made while the hand was pressed over the muzzle of a revolver; also as to the deadly character of the weapon used in the perpetration of a homicide, and whether a certain instrument would, in the hands of a man of ordinary strength, and used as a bludgeon, produce the wounds described and be likely to cause death.

In a case where two cuts through the under lip of the deceased were made by the lower teeth, the prosecution claiming that they were made by the pressure of the lower lip while the prisoner was smothering her, the defense claiming that they might have been made by the deceased while in a spasm, a physician was allowed to say whether they could have been made in the absence of some cause outside of another than the deceased herself.

Medical experts may express an opinion as to the natural and probable results of wounds, and as to whether they were sufficient to cause death. They may testify that a wound was necessarily mortal. Also that they should expect a greater injury from a direct blow than from a glancing once. And in a case where a person was bitten in the thumb by the defendant, a medical expert who had examined the wound may testify as to the dangerous tendency of that kind of wound. He may give an opinion as to the probable effect of the wound on the general health of the injured person, whether in consequence of it he is liable to any particular disease.

The opinion of an expert has also been received as to which of two wounds, either by itself necessarily fatal, actually caused the death of the deceased, and as to the amount of force required to break a person's skull, based on his familiarity with anatomy, and his knowledge of the structure, thickness and strength of the human skull generally. He may express an opinion as to the time when a wound was inflicted, and as to whether it was inflicted before or after death. Also as to direction from which a blow was delivered, as that it came from behind and above the head of the person struck, and from the left toward the right; also as to the position of the body when the blow was struck.

A physician may testify as to the effect of certain poisons on the human system; as to the symptoms which appear upon the administration of any particular poison, and may state that in his opinion death was caused by the administration of poison.

In a suit for malpractice, whether a physician has in a given case adopted the proper treatment of his patient, is a question on which the opinions of medical men of the same school may be received in evidence. They may state whether in their opinion the treatment was proper or not, whether it was in conformity with the rules and practice of the profession. An expert in medicine can be asked whether the defendant gave the case such attention as it demanded, and whether there was any unskillful management on the part of the defendant.

On the trial of an indictment for the rape of a child, the opinion of the physician that there has been actual penetration is admissible. He may also testify as to the health and physical condition of the prosecutrix at the time of the alleged offense, as bearing upon the ability to resist the defendant. It is proper for him to state the effect a rape would have on the sexual organs of the relatrix and that an examination of the prosecutrix several days after the alleged crime showed that the sexual organs were inflamed.

The opinions of medical experts have been held competent upon the question of whether an abortion has been performed; also that certain medicines are known as abortives and it would be dangerous to give certain drugs in almost any dose to a pregnant woman, and how large a dose would be necessary to produce an abortion. Likewise, they may testify that certain surgical instruments found in the house of the defendant indicted for an abortion were adapted to producing such a result.

Physicians may express an opinion upon the question of pregnancy and may give their opinion as to whether it could as readily occur in case of a rape as in the case of a voluntary sexual connection. In a prosecution for seduction the opinion of medical experts has been held admissible to show that it was highly improbable, if not impossible, for intercourse to have occurred under the circumstances described by the complaining party, and as to the pain and suffering she would have experienced had such an act taken place.

No question is made anywhere but that medical men who are conversant with insanity, who have made a specialty of mental diseases, and had experience with the insane, are competent to express opinions as

to mental condition, although they have not made any personal examination of the individual whose mental status is in dispute. They can express an opinion in answer to a hypothetical question. The opinions of experts are received as to the causes leading to the development of mental unsoundness. For instance, opinions have been admitted to show that paralysis in old persons has a tendency to impair the mind. As bearing upon the question of a person's insanity, or tendency in that direction, evidence is received that such person's father or mother were of unsound mind, or that his uncle, brother or other relatives suffered from mental disorder.

It will be thus seen that the expert occupies a proud and exalted position in the administration of the law and is a co-worker with the courts and the attorneys in the administration of justice, and is vested with the right to give an opinion on medical facts as observed by himself, or on facts observed by other persons and given in evidence. He is accorded these rights because it is considered that by reason of his previous studies and scientific research he is competent to aid the court and jury in arriving at the truth and promoting justice. There is no exact test by which a court can lay down a rule and determine with mathematical precision how much skill or experience a medical witness must possess to qualify him to testify as an expert. That question rests within the sound discretion of the court, whose duty it is to decide whether the experience or study of the witness has been such as to make his opinions of any value.

The witness should have at least a general knowledge of the matter about which he is called to testify, but the law does not require that he should possess the highest degree of skill to qualify him to testify as an expert. It is highly essential, however, that one who attempts to testify in matters involving the highest privileges of the citizens, and where human rights are deeply involved, should have information to such a degree as not to injuriously and wrongfully affect the life, liberty or property of his fellowman,, and not injure his own reputation and good name in his chosen profession. It is very embarrassing to a professional man to assume a degree of knowledge he does not possess and expose his ignorance and infirmities to the public gaze, as he is bound to do under the skillful cross-examination of a competent lawyer. A man who is called upon to give testimony involving questions of special knowledge and skill must expect the adverse counsel to draw from their professional armor every polished weapon at their command to be used as a dissecting knife in their client's behalf. Like the dry goods drummer, the goods he places on the road must correspond with the samples he carries.

In veterinary surgery I have seen the mountebank and charlatan placed in a very awkward predicament by assuming before the courts that they were skilled in their profession, which, in reality, they knew nothing about. On one occasion I was called upon to assist in the prosecution of a suit brought by a party in Fort Wayne against another citizen of that city upon a promissory note given for the unpaid purchase money of a blooded horse. The cause had been venued here from Allen County, and the defense was interposed of a breach of warranty in its sale; that the horse had been warranted to be sound when sold, but that as a matter of fact it was unsound and diseased to such an extent that it died of lung trouble a few days after the purchase and delivery; that if it had been as it was represented it would have been worth all the defendant agreed to pay, but in the condition in which it was it was of no value.

The Fort Wayne attorneys had followed the case over, but secured local counsel to aid in the trial.

The plaintiff introduced his note in evidence and rested. The defendant then produced testimony showing the early death of the horse and proved by several witnesses who conducted the autopsy, or who were present at the time, the fact that the horse's lungs were wasted away and practically consumed before the sale was made, and that its death resulted from this condition.

Our associate counsel was very anxious to offset this testimony, so he discovered an employe of one of the livery stables of this place who told him that the horse might have lived a great many years and rendered good service, notwithstanding the fact that it was minus a pair of lungs. The attorney who "dug up" this witness came to me in high glee over the magnificent dis-

covery he had made. I suggested to him the probability that the witness was a fake and would expose his infirmities and turn up his toes to the daisies on cross-examination. He assured me that the witness was all right and could sustain himself against all comers and goers.

We called him in rebuttal. He testified to fifteen years' experience as a veterinary surgeon; to his knowledge of horses, their diseases and treatment, and that a horse could and frequently did live a great many years and perform good service destitute of lungs, and that the horse in controversy, in the condition he was in when sold, was well worth the price paid. The opposing counsel said: "How many books on veterinary surgery did you ever read?" The answer came: "I am not compelled to tell you all I know." Counsel said: "I have a spare five minutes and I think you can." He then said: "What authors did you ever read treating of this subject?" The witness stood mute. "Did you ever read Daubinney on the Horse?" The answer promptly came, "Yes." "Well, where is a horse's diaphragm?" But no answer was heard. Counsel said: "Is it near the horse's tail?" The witness answered, "Yes." "Now," said the attorney, "where is the horse's colon?" The witness hesitated, but was prompted to say that it was in the horse's throat. Thereupon, the successful barrister exclaimed, with an air of triumph, "That will do," and the case was irretrievably lost.

We had at one time, at a later date, a signal victory, in spite of the infirmities of a veterinary witness. Our client in that case had been sued for damages for injuries resulting in the death of a mare from the services of a horse. The usual charges of negligence and want of ordinary care on the part of the proprietor attending to the transaction were appropriately alleged. Our defense, as you may surmise, was that the animal died from natural causes and that the defendant was not guilty of any act contributing to the injury. After the plaintiff had rested his case we introduced an expert witness, who stated that he was a veterinary surgeon of more than twenty-five years' experience. We proved by him that he had made a post-mortem examination of the mare. We inquired of him as to the cause of her death. The old gentleman knit his shaggy brow and looked wise for a moment or two before he answered, and then said, "Well, sir, I think she died of P. Newmony." The jury found, in accordance with his statement, that she died of "P. Newmony," and we won the case hands down.

Medical jurisprudence or forensic medicine includes all matters pertaining to public health and the physical welfare of society. It is otherwise known as hygiene, sanitation, or the science of public health.

The early nations recognized the public welfare as paramount to that of the individual, and sanitary and hygienic regulations had an important place in their legal code. The most primitive people could hardly exist as an organized community without observing to some extent the principles upon which medical jurisprudence is based.

In the sixteenth century, however, forensic science had its birth in Germany, when a penal code was enacted compelling courts and magistrates to call physicians as witnesses in all cases of violent death, injuries, poisoning and infanticide. As a natural sequence, dignity was added to this science and there followed careful and studious investigation of medical problems by the greatest physicians of the time. It resulted in the overthrow of the widespread belief in witchcraft and other kindred superstitions.

In the eighteenth century splendid works were written on forensic medicine. Germany then established chairs for teaching it in her universities. By the beginning of the nineteenth century France followed with three professorships, and has since lead in the development of this important science. Strangely enough, there was no similar chair in England until 1820. It has made rapid strides since the nineteenth cenutry to its present prominent position. Nor has the United States been idle during this wonderful humane development. She has kept up with the procession in this country and is cognizant of the constantly growing science.

It will be observed that the essential purpose of the aid and testimony of forensic medicine is to help the court and the law in securing exact justice to and for all, by showing the facts in the case and the inferences to be drawn from them in aid of scientific medical investigation.

Medico-legal evidence may be of two kinds; first, that from medical men whose connection with or relation to the case is

that of physician or surgeon, who testifies to the facts he has observed. The second is that of specialists or experts in certain branches, who may not have seen or treated the person who is the subject of inquiry, but whose testimony is based on a hypothetical question embracing facts testified to by others, and is intended to strengthen or make clear the facts or hypothesis presented by the one side or the other, or by the court itself. It will be seen that the duties of a medical jurist are distinct from those of a mere physician or surgeon; the latter looks only to the treatment of disease or accident and the saving of life; but the object of the former in a large per cent of cases is, whether, in reference to the living or dead, to aid the law in fixing the crime on the perpetrator, or to rescue an innocent person from a falsely imputed crime. Thus he may be required to determine whether, in a particular case, the cause of death was natural or violent.

There is no other subject in relation to which so many medico-legal questions may arise as in case of marriage, it being a civil contract into which those only who are physically and mentally competent can enter, and which they alone can fulfill. If a party is not of sufficient age, of sound mind and physically able to consummate the marriage, as to the person contracting such relation lacking in these qualities, the marriage is either void or voidable, and proceedings to annul the bond may be begun. In all such cases medical science may be called into requisition to aid the court to determine the facts.

The same science is invoked as to symptoms of pregnancy and period of gestation in cases of paternity and to determine the question of premature birth and to settle a controversy as to the legitimacy of children born during wedlock, where non-access by the husband is alleged.

The subject of insanity, to which I have briefly adverted heretofore, involves questions concerning the safety and personal liberty of individuals, the motive for strange acts and horrid crimes, the perpetration of fraud and evasion of contracts, and the protection and welfare of society in general.

Insanity may be defined as a condition of the mind in which a false action or conception of judgment, a defective power of the will, or an uncontrollable violence of the emotions may be produced by disease. It may be in the form of idiocy, mania, monomania or dementia. The legal grounds that justify restraint are that the patient is dangerous to himself or others, and that he is incapable of taking care of and properly managing his business or property. The question of insanity also arises when a person whose life is insured commits suicide. To understand and know the motives that control the actions of men requires the best thought of the profession, and, to properly discharge the duties of an expert, he cannot be the paid partisan of a litigant.

By keeping these disconnected thoughts in your minds and aiming to equip yourselves, even better than heretofore, for the noble work intrusted to your care, you can accomplish much good for all and win golden opinions from mankind.

Tuberculosis in Monkeys.

By W. A. Evans, M D, Chicago.
Professor of Pathology in College of Physicians and Surgeons.

Tuberculosis is the usual cause of death in monkeys in captivity. There is no data as to whether it prevails at all in monkeys in the wild state. Its importance from a human standpoint lies in the following facts: First, every animal that is the seat of tuberculosis constitutes a focus for the development of the bacillus, and this is important regardless of the manner of spreading of that bacillus. Second, monkeys are brought in decidedly close relations with the human race. In animal houses the monkeys are usually kept in a closed room, which closed room constitutes a center of attraction for visitors. Again, among those people, such as organ-grinders, who use monkeys for profit, the animal is generally kept in close contact with the family of the proprietor.

The statistics of the London Zoölogical Garden, furnished by Forbes, shows that 43 per cent of the death rate is due to tuberculosis. This statistic is based upon a record of 173 autopsies. At the Jardin d'Acclimation of Paris, according to St. Yves Menard, the proportion is 20 per cent. In the Zoölogical Garden at Frankfurt-on-the-Maine, it is 22 per cent. In the Zoölogical Garden of Lincoln Park, since April, 1808, it constitutes the sole cause of death. According to common report, the

percentage in private menageries is very much less, but this is to be taken with a grain of allowance. Less than two weeks ago a dealer in monkeys informed the Lincoln Park Board that he never had tuberculosis in his monkeys; they purchased a lot of him, and two of the number died of tuberculosis within six days.

It is rather difficult to determine when a monkey has tuberculosis. There is loss of flesh, loss of vigor, roughness of the coat, together with an inconsiderable cough; no expectoration has been detected; no diarrhea has been noted. The animal generally lives for several months and dies as the result of general enfeeblement.

In 1843 Rayer called attention to the prominence of tubercular lesions in the spleen; this organ, together with the lungs, constitutes the most prominent site of tuberculosis in the monkey.

Koch speaks of the fact that the tubercular lesion in the monkey has more the appearance of an abscess than of a connective tissue new growth. In the cases that I have examined the spleen has always shown the lesions most prominently. Tubercular nodules are multiple, and stand out from the surrounding spleen pulp in a very clear-cut fashion; those that are larger rise above the surface as spherical or globular masses, white or yellowish in color. In only two cases have I found tubercular nodules in the liver. In one of these the nodules were few, small and isolated; in the other the number was very large, the nodules were larger and many of them were caseated, and the liver was very much increased in volume. In the seven cases examined by Strauss the liver was found affected in all of them. In the cases examined by Dieulafoy and Krishaber the liver was found affected in all. Every case that I have examined showed tubercular lesions in the lung. These varied considerably as to type and as to extent. In the one case in which the liver showed such extensive involvement, the lesions in the lung were comparatively small and the inflammation was productive in character. The more frequent lesion, however, is phthisis, with a very great prominence of ordinary exudative pneumonia. An entire lung or one or more lobes of a lung will be found solid with foci of caseation scattered here and there. In one case one lobe had been converted into a large abscess. Rayer speaks of the comparative rarity of the involvement of the pleura. Such has not been the experience in this set of post-mortems. The parietal pleura has been the seat of tubercular nodules in every case. In three cases these tubercular nodules extended from the pleura to the chest wall, appearing subcutaneously.

In one of Dieulafoy's cases the bodies of several dorsal vertebrae were found to be carious. In one case the parietal layer of the pericardium was thickened in a plate-like fashion. There were extensive adhesions. In one of Dieulafoy's cases the pericardium was found markedly involved. Rayer calls attention to the frequency of tubercular pericarditis in monkeys. In Koch's eight cases the lungs were found affected. In only one of my cases were tubercular nodules found in the kidney. These were few and small.

In 50 per cent of the cases the mesenteric glands were found enlarged. No ulcerations of the intestines were discovered. This enlargement of the mesenteric gland is noted by Rayer, Dieulafoy, Koch, Strauss.

Dieulafoy and Krishaber injected tubercle bacilli subcutaneously in a lot of monkeys; in several months these monkeys died of advanced tubercular lesions in the lungs, the bronchial glands, spleen, liver and peritoneum. In the cage with these tubercular monkeys they placed twenty-four healthy monkeys; of these, five died of tuberculosis. This cage was then emptied, cleansed, disinfected, and twenty-eight new animals were put therein. At the end of fourteen months only one animal had died of tuberculosis; this monkey died within two weeks of the time it was placed in the cage, thus demonstrating that the animal was infected at the beginning of the experiment. The conclusions that they draw are these: The mortality from phthisis in monkeys is more considerable in the zoölogical gardens, where the cages are never completely evacuated; where there are always tubercular subjects who contaminate the new animals, and where the hygienic conditions are very defective. In the menageries and in the cages of those people having a single monkey the conditions are better, and in consequence the death rate is smaller.

All monkeys should be systematically

examined with tuberculin. No monkey known to be affected with tuberculosis should be placed in a cage containing healthy animals. Any monkey developing tuberculosis should be removed from the cage at the earliest possible moment. Grawitz, in the Berlin Zoölogical Garden injected 32 monkeys with tuberculin. Twenty of these 32 monkeys were killed or died in order to get the advantage of a post-mortem. Every animal that had tuberculosis reacted to tuberculin. Seventeen of the 32 gave no reaction. Nine that gave a violent reaction were found to be non-tubercular. Grawitz concludes that the diagnostic value of tuberculin in monkeys is not absolute. In spite of this observation, the fact remains that tuberculin is the surest method of diagnosis in monkeys.

Saturday Lessons in Neurology.

By HAROLD N. MOYER, M. D.
Professor of Nervous and Mental Diseases, Chicago Clinical School

TYPHOID NEURITIS.

The young man whom we now present is twenty years of age. He has a good family history and until one year ago had had no serious illness. At that time he was taken with a severe attack of typhoid fever, during which, he says, the temperature ran very high and part of the time he was delirious. The illness lasted for fourteen weeks, and during the second week of the affection a swelling of the right arm and leg occurred. He says that the affected limbs were very painful and that he could not move the arm nor straighten the leg. The knee was bent at an angle of about forty-five degrees and a most severe pain was felt about the knee-joint. After a tedious convalescence he began to get about and with use the leg gradually straightened and after a few weeks he had practically free motion at the joints. The arm improved more slowly, but gradually some strength returned and he could move it at the elbow and the wrist. The hand assumed the position in which we now see it:

The hand is flexed upon the forearm at the wrist, with extension of the first metacarpal bones and complete flexion of the second. This gives the bird-claw appearance of the hand, so characteristic of peripheral neuritis. Sensation is normal in the trunk and lower extremities and down the arm as far as the wrist. In the hand there is a loss of pain, tactile and temperature sense, which gradually deepens as we advance from the wrist to the end of the

fingers, where sensation is very much obtunded, though not wholly lost.

The tendon jerks are lessened in the right arm as compared with the left. The patellar phenomenon is so faint upon the right side that its presence can just be determined; that upon the left is quite normal.

That we have to do with a peripheral neuritis in the hand is apparent from the fact that there is a coincident loss of motion and impairment of sensation. The loss of sensation is about the same in all the nerves which supply the hand. That the cause of the trouble was the typhoid fever is shown by the nature of the trouble and the comparative frequency with which typhoid is complicated by these conditions. This form of peripheral neuritis is sometimes spoken of as post-typhoidal, and we think

that it is rare to find the disease developed to the extent that we see it in this case in the first two weeks of the affection. Undoubtedly the disease is toxic in character and due to the toxins which develop during the course of the disease.

An interesting question is raised in the present case by the recovery from the neuritis in the lower and upper extremities, all excepting the hand. An explanation for this is found in the varying severity with which different nerves are affected. Where the neuritis involves the upper extremity, the nerves of the hand and forearm are most affected; here, also, the tendency to contracture and deformity is most marked. The contraction of the muscles, with shortening of the tendons is what has caused the great deformity of the fingers which we observe. This could easily have been prevented if the condition had been recognized early and as soon as the more active symptoms of the disorder had subsided passive movements had been resorted to. If, in addition, this had been accompanied by massage and electricity, there would not have been the same degeneration of muscular fiber. That there has been a regeneration in the nerves, as far as their distribution in the muscles, is shown by the electrical reactions, which are nearly normal. To the Faradic current the muscles of the forearm react somewhat slowly as compared with the opposite side.

A favorable prognosis, so far as the hand is concerned, is found in this electrical reaction, but the deformity is such that surgical measures alone will correct it. Just what is needed in this case we shall not attempt to say, but leave it to the surgeon. Some of these cases can be remedied by forcible straining of the deformed fingers, with a consequent stretching or rupture of the muscle fibers which have been shortened. Others require a plastic operation upon the tendons by which they are lengthened. A cutting operation may be needed in these cases, or it may be found advisable to resort to a combination of the two methods.

GOITRE, WITH DEVELOPMENT OF CONSTITUTIONAL SYMPTOMS.

We have long held that the distinction between simple goitre and the exophthalmic variety of the affection could not always be maintained. The patient which we now present to you is one in point. She is thirty-six years of age and has suffered from an enlargement of the thyroid gland since her earliest recollection. You will note that the enlargement is more pronounced in the middle line, where we have a symmetrical cyst of the isthmus. Both lateral lobes are enlarged, but not markedly so, and certainly there is nothing in the size of the growth that would suggest interference with the general health, by pressure upon the nerves or air passages. About two years ago she began to suffer with severe paroxysms of nervous depression, characterized by an indefinable feeling of anxiety and a subjective sense of dyspnea. During the past two years these symptoms have gradually grown worse; there has been marked impairment of strength and breathlessness on exertion. There is now a perceptible tremor of the hands and she complains of attacks of sweating even during cold weather. The pulse is 148, but the heart sounds are quite normal. The pulsations of both carotids are very marked and there is a distinct murmur heard over the enlarged thyroid. The eyes are not prominent and when the balls are turned downward there is no retardation of the movements of the lids.

The rapid heart, local sweating and profound nervous disturbance are sufficient to place this case in the group of Graves' disease, and it illustrates some of the clinical phenomena in goitre, in which the disease pursues a practically symptomless course for many years and we then have a sudden development of constitutional disturbance.

ATAXIC PARAPLEGIA.

The term ataxic paraplegia is one used by Gower to designate a diseased condition of the spinal cord, which cannot be classed under spinal syphilis nor tabes. Some writers are disposed to deny this symptom complex a position in nosology. They point out that if these cases are observed for a considerable length of time they will present the symptoms of tabes, amyotrophic lateral sclerosis, or other less systematized affection of the cord.

We believe that the symptom complex described as ataxic paraplegia is met with quite often, and it can be clearly differentiated from other spinal disorders, and is worthy of special description. The case which we present is a typical example of

the disease. The patient is thirty-six years of age, married, the father of two healthy children. He has always had good health and never suffered from an accident or injury. He positively denies all venereal infections. He says that two years ago he first noticed the beginning of the disorder of which he now complains. At that time there was staggering when in the dark; when bending over to wash his face he sometimes tipped forward against the wall. With these symptoms there was some loss of strength in the lower extremities and a certain clumsiness in other movements. Questioned more closely regarding the loss of strength, he says it was more an early tire after a somewhat continued exertion. During the first year and a half the disease increased in severity, but of late he thinks that there has been no change, it having for the most part been quite stationary. There have been no disturbances of the bladder, eyes, nor "crises" connected with the internal organs such as are commonly observed in tabes. He has had no pain.

With eyes closed and feet close together there is very marked swaying, but he is able to maintain the erect position. The pupils are of equal size, react normally to light, and eye grounds are normal. The fields of vision are normal in extent, both for form and color. Careful testing of the entire trunk and extremities shows a normal response to tactile impressions and those of temperature and pain are not impaired. The strength of individual muscles is all good; rough testing of the muscles of the lower extremities shows that they are apparently about the usual strength for muscles of their size. The electrical reactions of both nerves and muscles are normal.

The superficial reflexes are nowhere increased. Carefully testing the gluteal and abdominal reflexes, no reaction is obtained. The cremasteric shows a distinct reflex, but no more than is generally present in health. Muscular tonus in the lower extremities is markedly exaggerated. A tap upon the patellar tendon carries the leg out nearly horizontal and it is followed by a succession of short jerks. The front tap gives a distinct jerk and a muscular contraction can be obtained by tapping any of the muscles of the lower extremities. The Achilles jerk is markedly exaggerated. A distinct clonus can be obtained by suddenly pulling down the patella in the long axis of the limb. The contractures vary from three hundred to four hundred per minute and a perfect rhythm is maintained. This clonus continues from two to three minutes; it gradually fades out. The same mytotic irritability is present in the upper extremities, but is much less marked than in the lower.

A summary of the foregoing symptoms shows how markedly they differ from tabes, the patient presenting but a single symptom, the static ataxia, common to that disorder. As we have already said, the outcome of most of these cases is unfavorable, though the disease progresses much more slowly than does the average case of tabes.

The treatment, however, is even more unsatisfactory than that of tabes, it being a disease which advances very slowly and with long periods in which it is stationary. Any treatment followed by a respite in the progress of the disorder may be easily attributed to the remedies employed, while really it is one of the coincidents which occur in this disorder.

The pathology of the affection is very obscure and most of the autopsies so far made betray the mixed secondary lesions found in the terminal stages of the affection.

103 State street.

How Does the Cause of Disease Produce Disease—A Further Study.

By G. M. Russell, M. D., Dixon, Wyoming.

In the "Journal of the American Medical Association" of July 2, 1898, appeared an article entitled "How Does the Cause of Disease Produce Disease? A New Interpretation of Operative Principles," by Dr. W. R. Dunham of Keene, New Hampshire.

The subject-matter of this article appeared to me to be worthy of some study and consideration, and to be of such a nature as might prove of interest, at least to some of the members of this society.

Dr. Dunham holds that vital force is the only active force responsible in the manner of causing disease. He quotes from a distinguished editor of an American medical journal as follows: "There is no drug yet discovered, unless it be alcohol, which adds

to the forces of the body." He then goes on to say: "But even this only source will be discredited when it is recognized that medico-biologic science is based entirely on the functions and operative principles of the vital force energies; therefore, in place of teaching medico-biologic science as being based on functions and operative principles, derived from both within and without, this division of natural science will have its recognized first principles beginning with the comprehension of the nature of the vital force energy."

He also quotes from Henry Maudsley: "It is easy to perceive how impossible it is in the present state of science to come to any positive conclusion in regard to the nature of vital force. This generation and generations to come will have passed to their everlasting rest before a discovery of the secret of vital activity is made." Commenting on this he says: "Notwithstanding such statement, the vital force problem, as implied in the operative plan of its several ultimate principles, is already solved, and is no more difficult to comprehend than the Copernican plan of astronomical science, and may be as positively demonstrated."

He lays great stress upon his definitions for sensibility, instinct, sensation and contractility, and says a proper understanding of them is necessary in order to comprehend his theory.

His entire theory is based on sensation and its transmission, in that pathologic processes are set up by irritation reflexly; that the conditions called health or disease are each presented or executed as involuntary acts in response to existing sensation, normal or abnormal. That medicine is useful, not because of an associated active principle, but as the means from a relation of contact for the development of special sensations—the idea that medicine acts is misleading—there is no medical power, but medicine causes special sensations in response to which involuntary life acts are exercised; that the cause of disease does not attack the organism; that the food or soil favorable for development of bacteria in the human system is made to exist largely from pathologic vital action, and thus in the virus produced by non-recurrent contagious diseases micro-organisms will multiply into millions and perish when the food supply or materies morbi is no longer liberated—in such instances the presence of the microbe becomes a consequence rather than a cause of the disease; that the "special virus" is a product from pathological vital action and not a poison excreted or secreted by the microbe—the microbe does not come in and attack the human organism, but simply multiplies and consumes the virus as scavenger—that it is the virus and not the microbe that becomes the cause of the disease; that the microbe is not sufficiently complex to perform the function of excretion or secretion of poison and does multiply and perish rapidly; that it is only the micro-organisms which have been developed from some virus cause of disease that cause pathological disturbances to be manifested.

It would seem to me that in endeavoring to reason out the method in which the cause of disease produces disease, Dr. Dunham made his cause of disease to conform to his new theory, instead of modeling his theory to conform to the accepted cause. At any rate, he has lost sight of the real cause itself, and there is danger of leaving us just where we were before the microbe and its relations to disease were discovered. The only demonstrable causes of certain diseases are the micro-organisms, and, as we all know, the bacterium of each disease has its own peculiar characteristics, and it is always found in the disease which it produces if looked for by a competent and careful observer. The same disease is caused by the same microbe when introduced into a healthy organism, and yet in the face of the evidence that the absolute causes of these diseases are microbic in character, this new theory is advanced, refuting and branding as false the positive knowledge which the results of many years of labor and investigation have made one of the pillars upon which the science of medicine rests; assuming that the microbe is generated de novo, and adopting instead a vague, indefinite "special virus" liberated by vital force, the initial cause of which is irritation—and by what? He does not state what the irritation may be which in the first place causes an impulse to pass in through the sensorium and cause reflexly the liberation of virus, nor does he enlighten us as to the material from which the special virus is produced, nor yet again from what the microbe may result. The microbe again

is but a scavenger to consume the virus. Then why would it not be better to introduce them and aid and succor their growth in order that the virus may be the more quickly devoured? Why are the modern surgical methods so successful in dealing with diseased conditions? Can it be possible that the antiseptics in use, so destructive to the bacterium, are in every case coincidently destructive to the special virus? Then as to the differential cause he makes no provision, whether there is a different kind of irritation necessary to produce diphtheria from that which is required for typhoid fever or measles, or whether it is necessary that the irritation should be produced upon a certain set of nerves for its differential effect.

He says we should observe a distinction between primary and secondary causes. The former may occasion a disturbance which in itself later develops a great variety of secondary causes for the continuance of disease. According to this, why should we not have a cycle of all diseases, each new batch of virus serving as an irritation for a succeeding lot. Then, as to the army of disease microbes, which he says is not hovering in the air awaiting an opportunity to attack exposed tissue, we are all aware that the great mass of microbes in the air are non-pathogenic.

The only way in which he explains the method of causing disease is through a reflex; but that is not sufficient; it does not take us to the last step in the process. To what particular cells and what particular organ or organs do the reflex go? Of what nature is this special virus, how is it elaborated, and from what? What causes the original irritation? If virus which has been introduced, what shape is it in and how has it gained entrance? In fact, what are the successive steps from the introduction of the cause of the original irritation to the elaboration of the virus? After elaboration of the virus what becomes of it if it is not consumed by the microbes?

Vital force is like the mind, an unknown quantity. It is, as an eminent alienist has pictured the mind, "but an organist," and when the organ is out of tune or out of repair the result is a discordant jumble. And so with the organs over which vital force presides. When the cells of the organs have departed from a state of health or from a state of "harmony with their environments," as one author puts it, vital force can do nothing but what the organist would do—strike the proper key. We are no nearer the solution of the vital force problem than we were at the time Maudsley wrote the words above quoted, and I see no more reason for accusing vital force of that of which it may be innocent than I do for ascribing to "reflex" all the ills of humanity for which we can discern no other cause. Judging by analogy, however, I cannot believe that vital force changes its character any more than any of the other forces of nature; nor, by the same process of reasoning, do I see why it should be governed and controlled by irritation. The results of the actions of the other forces of nature vary with the nature, condition and properties of the objects upon which they act, and why should vital force be an exception in this?

Every cell of our body is bathed in Lymph, which is the food vehicle, and in this fluid are all the substances which are absorbed and to be assimilated. In it there may be toxic elements or principles, or the elaborators the microbes themselves, or whatever may be the pathogenesis. The cells then are out of harmony with their environments, bio-chemical changes take place which alter the shape and composition of the cell and perhaps results in its death. The cell being so altered, the result of the action of vital force is likewise altered and modified or lost entirely.

The solution of this problem cannot be definitely made until we can compare the bio-chemical composition of the live, healthy cell with that of the diseased cell. Just as the key of an organ may be out of tune by any number of different degrees, so may the bio-chemical composition of the live but diseased cell differ in a variety of forms.

We can follow our toxic producers or their products through the digestive or respiratory tracts into the blood. We can follow them into the Lymph and can find them in the cells themselves, but their positive and ultimate action with respect to the changes and alterations in the bio-chemism of the cells is yet to be discovered. It is at this point where vital force and materialism meet. Here is the missing link in the mode of cause of disease. What particular modifications are necessary, and in what infinitesimal degrees these modifications

must differ to produce the various phenomena we call disease, remains for further scientific investigation. Certain it is that these modifications differ according to the pathogenic cause. It would appear to me that the toxic substance coming in contact with the cell changes its bio-chemical composition just as a chemical reagent changes that of a salt; that the strength and nature of the reagent (virulence and kind of the toxin) is the measure of the amount of variation from the normal composition, and this variation gives us our various forms of disease of our various organs and their degrees of severity.

Medicines, then, act in the same manner in which the toxic elements do, i. e., by altering the bio-chemical composition of the diseased cell, neutralizing the action of the toxins and bringing the bio-chemical formulæ back to the original normal. As the bio-chemical composition of the cell varies from the normal, so does the result of the action of vital force upon it vary from the normal.

It is not within the province of this paper to argue for or against the germ theory of disease. The consensus of opinion of scientists is that microbes are the cause of most disease, which opinion is based on facts which have been proven and reproven by years of thorough investigation by competent men. Why should we abandon these facts and resort to theory and speculation of which we have too much already? Time would be much better spent in investigating the changes which undoubtedly take place within the cell protoplasm when brought in contact with the toxins.

Practical, material research is the need of the hour.

Auto-Intoxication.

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[Read before the Wyoming State Medical Society.]

Weber defines auto-intoxication as a poisoning of the system by the products of its tissue metamorphosis; they may be normal products and do harm by excessive accumulation or may be abnormal, pathological, viz., either not at all or in minute particles only present in the healthy body. ("Charlotte Medical Journal," November, 1897, p. 580.)

During the early period of the germ theory of disease, the germs themselves were regarded as the maleficent agents and the active causative factors in the production of disease processes. Later on it was contended by many eminent authorities that it was not the germs themselves but the toxic materials or toxins which they generated that caused the trouble, and within still more recent years the theory that the body without the introduction of any external disease-producing germs or toxic materials can, by a retrograde metamorphosis of its own tissues, produce virulent poisons which may and frequently do lead to serious derangements and even cause death.

It has been clearly demonstrated that intense muscular activity is followed by the formation of organic poisons. This poisoning is, other things being equal, in direct ratio to the intensity of the effort and the amount of muscular tissue involved. Fernand Lagrange, in his work, "Physiology and Bodily Exercise," page 348, says: "In the opinion of all physicians in these days the fevers of overwork, which are observed alike in animals and in men, are due to a kind of poisoning of the body by its own elements, to an auto-intoxication of the system by the products of dissimilation which have accumulated in too great abundance in consequence of excessive work."

Michael Foster, the great physiologist, in a lecture before the University of Cambridge, a few years ago, spoke as follows: "When we have excessive muscular exertion, the weariness may take a form of distress, and if the effort be continued the distress may become so great as to occasion such complete exhaustion that even death may result. In excessive work, of whatever kind it may be, in order for the work to be accomplished there is a greater demand upon the blood for oxygen. There are many things beside carbonic acid which are swept into the blood as the result of the activities of the body; in other words, the product of work in the human body is a poison which must needs be eliminated through the medium of the lungs and the other excretory organs. As physical and mental efforts are continued the eliminating capacity, unless carefully guarded, is marred, the resulting poisons are more and

more heaped up in the system, poison the muscles, poison the brain, poison the heart, poison at last the blood itself, starting in the intricate machinery of the body new poisons in addition to themselves. The hunted hare run to earth dies not because his heart stands still, its store of energy having given out, but because the poisoned blood poisons his brain, poisons his whole body."

In view of these facts as to the formation of toxic materials by strong muscular activity, I have long been convinced in my own mind that many cases of mild poisoning following parturition, in which every possible precaution has been taken to avoid external infection, are caused by the long continued uterine action, which, if intense and tonic, in all probability generates toxic materials much more rapidly than they can be eliminated, especially if this action has been rendered more tonic, intense and continuous by the administration of ergot during labor.

In a paper, "Should Ergot Be Used During Parturition and the Subsequent Involution Period," read before the Colorado State Medical Society in 1894, and published in the "Journal of the American Medical Association," September 15, 1894, I called attention to this subject, and I now desire to emphasize the position then taken and to insist on the importance of keeping all the excretory functions of the pregnant and parturient woman in first-class working order. Furthermore, my experience has convinced me that a few small doses of calomel, in conjunction with acetate of potassium and sweet spirits of nitre, to each dose of which a couple minims of tincture of aconite root is added, if the latter be indicated, administered every two hours for a day or two, will arouse the excretory organs and poison-destroying powers of the system and do more to relieve the threatening symptoms than all the quinine and coal tar derivatives that can be given to such cases.

In the preface to his translation of Bouchard's work, Dr. Oliver speaks as follows: "Bouchard, in his "Auto-Intoxication," clearly indicates to us that man is constantly standing, as it were, on the brink of a precipice; he is continually on the threshold of disease. Every moment of his life he runs the risk of being overpowered by poisons generated within his system. Self-poisoning is only prevented by the activity of his excretory organs, chiefly the kidney, and by the watchfulness of the liver, which acts the part of a sentinel to the materials brought to it by the portal vein from the alimentary canal," and continuing, he says: "The part played by auto-intoxication in mental disease is attracting attention. In the "Medical Week," August 11, 1893, there is a lengthy report upon the subject as discussed at the French Congress of Psychological Medicine, by Drs. Regis, Chevalier-Lavaure and others. It has long been known that the various fluids of the body undergo modifications in the insane. Recent investigation has shown that the urine is much less toxic than normal in cases of mania, while the lethal action of this fluid is increased in melancholia. Maniacal urine gives rise to excitement and convulsions, when injected into an animal, while the injection of urine from a case of melancholia is followed by a depression of spirits, restlessness and stupor—a proof that auto-intoxication is the cause and not the effect of the mental condition.

I believe that every observing physician could bear witness to the fact that many cases of depression of spirits, mental hebetude and general pessimism are due, not to some incipient serious organic disease, as the patent medicine manufacturer or the blatant advertising charlatan would have the sufferers believe, but are merely the result of the accumulated retrograde toxic products, produced by the normal activities of their bodies, but which, instead of being promptly eliminated, accumulate in the blood and poison the nervous centers, set up disorders of the digestive organs, overtax the liver and lead to almost innumerable functional derangements. I had an excellent illustration of this sort of trouble in the case of a prominent county official that I treated a short time ago. He came to me with a severe, dull, heavy headache and a sense of weight and oppression at the base of the brain; mental hebetude, defective memory; tongue foul and quite heavily coated; bowels constipated and digestion impaired. This condition had existed for a month or two and he had been treated by another physician, who gave him several different prescriptions, but instead of improving he was constantly getting worse. I regarded the case as one of auto-intoxication and gave him small doses of calomel

if they are in proper working order, promptly discharge them from the body.

When the truth is once thoroughly understood and appreciated that anything which interferes with the functional activity of the excretory organs and prevents the free elimination of poisons, not only causes the blood to become loaded with toxic materials, and thus renders it less able to take up the retrograde products of cell activity than when it contains a comparatively small amount of these materials, but that the poisoned blood less readily conveys the nutrient material which is absolutely necessary for the life and health of the cells, and that the accumulating poisons inhibit their activity and lessen their power to recognize and combat maleficent agents, when I say we once fully appreciate the importance of these truths and realize to how great an extent the welfare of the body depends on the consentaneous activity of the cells, the blood and the excretory organs, we will be able to appreciate the importance of auto-intoxication as an active factor in the production of diseases.

New Arts in Practice.*

By WILLIAM B. DOHERTY, M. D., Louisville, Ky.

Sepsis, asepsis and antisepsis, germs and germicides, cures and curers—subjects which embrace almost the whole domain of medical science—will be briefly considered in the limited space of a paper devoted to some of the new arts in practice. Dirt and darkness, in the broadest and most comprehensive signification of the terms, are the chief factors in the causation of disease; and pure water, pure air, pure food, pure soil and sunshine are the best measures for its prevention and relief. Cleanliness, persistent—yea, eternal—cleanliness, is next to godliness, and is the price of safety. The advantages of asepsis by warm water alone, and antisepsis by the use of chemical agents for the prevention and destruction of pus, have been carefully considered and zealously discussed by their respective advocates. For some time the profession paid homage to the germicidal properties of carbolic acid, but later the great king, Hydrargyrum Bichloride, appeared as an annihilator of germs and has held sway, though it may be possible within the next few years we will turn back and recognize in the inorganic proximate principle of salt and water the best and safest disinfectants we possess. The germ-hunting theorist who believes that he sees through the microscopic myriads of death-dealing bacteria has a very plausible solution of the cause of all the ills that flesh is heir to, and believes that by killing the bacteria the disease is subdued. But alas! the water we drink, the air we breathe, the earth we tread upon, teem with micro-organisms. What good or harm they do is not so well known. Bananas will not grow in Alaska; the products of the sunny south will not mature in the extreme north; nor will the constitution of the individual who has a good inheritance and proper food, air and exercise be easily affected by those much-dreaded microbes. It would appear that while so much fascinating investigation and learned research have been devoted to the study of the genus bacillus and its habitat, the genus homo and his environment have not received the same degree of careful thought and scientific solicitude. To render man invulnerable to the ravages of disease, it must be conceded that the great demolishers or devourers of germs, the worthy fortifiers of our constitutions, the great navy of infinitesimal cells, the wandering phagocytes that are continually fighting our battle in the blood, truly the sea of life, must have their armament strengthened by giving the system pure air, good food and healthful exercise. Vital resistance, which is mainly the product of seed, soil and surroundings, must be increased rather than lowered by the artificial methods of living which now obtain if the attacks of our great foes, the infinitesimally small and numberless microbes, are to be rendered innocuous. While recuperative or "curative" treatment by artificial agents as bactericides is almost universally practiced in cases of phthisis, the great plague of the human race, hygienic means are not so rigidly or persistently enforced.

Cure, cure, cure—the piteous appeal of the weary sufferer—has always been the talisman of the vender of nostrums and the trademark of the impudent quack. There is possibly no word in the English language whose scientific meaning is so little understood by the laity as the word cure, which, derived from the Latin cura (care), means to care for properly. There

*Read at the meeting of Kentucky State Medical Society May 19, 1899.

is no positive cure or specific for any disease, though the efficacy of medicines cannot be questioned. The existing condition, the constitution, the weak points of the organism, must be attended to, each case being a law unto itself. As the quantity and quality of life are indefinite and unknown, it follows that from uncertain premises certain results cannot be obtained, nor can "cures" be guaranteed. The mystery of life makes its duration always a matter of uncertainty. None may even lay claim to a knowledge of its tenure for a single hour. The pilot can steer the ship, but he cannot quell the storm; the agriculturist can sow the seed, but may not reap the harvest; the physician can prolong life, but may not prevent death. While the profession of medicine is of the highest calling in the sphere of mortal life, its dignity and usefulness have been assailed and impaired by the low arts of boasting and cunning and the wily advertising schemes which now prevail. The late Dr. Oliver Wendell Holmes said that "Quackery hobbles on two crutches, the tattle of women and the certificates of clergymen," to which we may add the testimonials of politicians and their pictures in the papers. Religious journals will advertise and publish statements of "sure cures" from church divines that are calculated to mislead and delude the people. It is unfortunate that clergymen will allow their names to be used for such objectionable purposes. There are quacks within the profession who will write articles paid for by drug firms, extolling the virtues and curative properties of their medical preparations, without even having tested any of them. There are medical journals established for mercantile purposes, padded with many untruthful advertisements; they contain medical literature as fanciful and untruthful in its expression as the tales of "Gulliver's Travels" or of the "Arabian Nights."

The code of ethics, which has been designated as the doctrine of correct manners, or that of philosophy, which teaches men their duty and the principles of professional conduct, has been vetoed by Ego, the coat of arms of many physicians engaged in the art of trumpeting their reports of successful cases; while the potent influence of the vis medicatrix naturae is not recognized.

The profession is at present overburdened with false specialism and too many young and inexperienced physicians playing the role of "specialists." The honest specialist, who, after years of experience in the general practice of medicine, may have acquired a practical all-around knowledge of disease, has a taste for some special line of work and thought and prosecutes his studies in that direction, is worthy of all credit and credence. But man is not made of eyes, ears, muscles, bones or nerves separately, nor can we recognize him as a machine only. The heart is more than a mechanical pump, the lungs far superior to a bellows. The brain is not an electric power house, and the human being cannot be disconnected and disintegrated by a mechanical device, or a "trick of the loop," and distributed to the chief artisans of various workshops. No! There is a beautiful, interdependent and harmonious action existing between all parts of the human system. The specialist who devotes his attention to the eye can never be a good physician unless he fully understands that the eye affection which he treats may be due to a constitutional disease, and treated accordingly. The appendicitist must not be an exclusivist, an incisor of the bowel, or a worshiper of a detached idea. The family physician is the safest to employ, and should be first consulted in all cases of disease before seeking any specialist. Should he detect a diseased condition that may require more dexterity of manipulation, or the skill of a craftsman, he will gladly seek counsel, and the knowledge derived from his experience in treating the family, the inherited weaknesses of individuals, or the special knowledge of the case, will be necessary to the successful labor of the specialist.

We find in the thirty-eighth chapter of Ecclesiastes the professional medicine approved by God, and the fourteenth and fifteenth chapters of Leviticus treat of hygiene, so the scientific view of specialism is given in St. Paul's letter to the Corinthians, chapter twelfth, verse twentieth:

"For as a body is one, and hath many members, and all the members of the body, whereas there are many, yet there is one body; for the body also is not one member, but many. If the foot should say, 'because I am not the hand, I am not the body,' is it therefore not of the body? And if the ear should say, 'because I am not the eye, I am not the body,' is it therefore not of the

body? If the whole body were the eye, where would be the hearing? If the whole were hearing, where would be the smelling? And if they were all one member, where would be the body? And the eye cannot say to the hand, 'I need not thy help'; nor, again, the head to the feet, 'I have no need of thee.' And if one member suffer anything, all the members suffer with it."

Man is the dupable animal. Quacks in medicine, quacks in religion and quacks in politics know this and act on this knowledge. There is scarcely anyone who, like a trout, cannot be taken by lures. There are quacks of all kinds, from the most ignorant to the highest type of intellectuality. The habit doctor who "cures" the whisky habit, the tobacco habit, the morphine habit, the cocaine habit, is possibly the latest addition to the ranks of quackery. How any person of reason can comprehend why a physician should get medicine for the "cure" of a habit surpasses all belief. Suppose that I am a victim of the whisky habit, or morphine habit, and present myself to one of those quacks for "cure." I tell him I am in good health, and he, thinking himself able to make an examination of my physical condition, finds that my heart, liver, lungs, brain, kidneys, nervous system, etc., are healthy, why, then, should he give me any medicine? He might as well give medicine to prevent the habit of swearing as to give a healthy person medicine for the "cure" of any habit. Of course, when there is an abnormal condition of any organ, or of the nervous system, it becomes necessary to use remedies for relief. This quack boasts of having a secret remedy for the purpose of strengthening the will power. How can he tell what is involved? Habit means custom, fixed custom, not an entity, and as it may not show any perverted condition of nervous tissue, or of any organ, its treatment under those circumstances is the sheerest nonsense. Why not take the chloride of gold or the sulphate of strychnine for the habit of telling falsehoods?

The opium and cocaine habits are alarmingly on the increase. I have made inquiries of druggists in different portions of the city, and from statements I am led to believe that at least two thousand people, and probably four thousand, in Louisville are habitues of opium and cocaine. It may be presumed that the same ratio to the population exists in other cities and towns, but probably not so great in rural districts. How often is the pleasing physician to blame for encouraging this enthralling, crushing and blighting habit by the unnecessary use of morphine given by the mouth or hypodermically, simply because some patients demand a sleep-producing or pain-relieving medicine, irrespective of any contra-indication to its use that may exist? The accommodating druggist is also deserving of censure in refilling for an indefinite period prescriptions containing opium without the consent of the prescriber. The hypodermic syringe is getting to be a dangerous popular household commodity, especially in high-strung and fashionable families. The physician who orders a hypodermic syringe and morphia tablets to be used by a patient is guilty of the act of a dangerous criminal. The unfortunate victim of the opium or cocaine habit seems to be in a more depraved and irretrievable condition than his brother in misery who is a slave to the habit of alcohol.

The habit of self-medication causes far more deaths every year in our country than the carnage inflicted on both sides during our recent war with Spain. Our gambling propensities as a nation are shown in the worst light when we gamble on our lives. The digestive tract appears to be a slot-machine, into which its possessor takes pleasure in thrusting any preparation with a euphonious name suggested for the "cure" of disease in newspapers, in circulars on our door-steps, on posters on the dead walls of cities, in the street cars, on the fences, along the lines of travel—yea, on the mountain tops—to delude the healthy, or seeker of health, from enjoying the advantages of such a salutary region. A morbid, hysterical condition often results in many people from reading and studying flaming and picturesque notices regarding their nerves, livers, kidneys, etc. Laboring under the delusion of being ill, thousands will, unnecessarily, take drugs without consulting a physician, try their luck in cures as they would in cards at the faro table, and become dyspeptics, neurasthenics and inebriates in consequence. Instead of obtaining the best remedies and advice from those qualified by education and experience to bestow them, people will pour drugs of which they know nothing into a body about which they know less,

and will try, and keep on trying, their luck as long as the pleasing advertisements appear, to be changed only when a more alluring picture and catchy testimonial of a "sure cure" presents itself. Four, eleven, forty-four—you pay your money and you take your choice—a veritable lottery on life. The great lottery drawings of the world will give a list of the few big prizes that are won, but the names of the thousands and thousands who did not succeed in getting anything are not intended to be known by the emotional and foolish creatures who invest their money in such gambling schemes, and so it is patent medicines. The multitude whose constitutions are really injured, or who received no benefit whatever from those nostrums, are never heard of. "Foolery, sir, does not walk about the orb like the sun; it shines everywhere." How fortunate it would be for humanity if the tons of headache powders, the barrels of blood purifiers and the hogsheads of liver pills were thrown into the sea, rather than into the stomachs of people by men who scarcely know the name of a bone or muscle or the function of a single organ of the body!

We have many myopic theorists within the profession, who, like limpets attached to the rocks, know nothing of what is going on beyond their own shells or habitations. There are experimental doctors who try every new fad, mechanical appliance and remedy that appear in the journals in order to be recognized as fin de siecle. This so-called up-to-date doctor is usually the greatest humbug that exists. Something new, but not necessarily true, the people want, and why should he not be the man to give it to them? He may be a "curer" by massage, electricity or oxygen, the stomach hose or the X-rays, or whatever may be the fashion of the moment. He exaggerates the importance of every new nostrum or mechanical device.

The advantages of hospitals for operative work, surgical rest and rational medical treatment cannot be questioned; but there is some danger of "goodness growing into a pleurisy and dying of its own too much," resulting in a condition of hospitalism and institutionalism, especially among the neurotic. The enervating influences due to lack of employment, vicious luxury and indoor life among those not confined to bed in such institutions tend to lower vitality, and may increase degenerative traits and hysterical tendencies. The abuse of massage and electricity, by lessening will power, may produce a condition of prudishness and morbidity by magnifying the importance of peccadilloes into grave physical conditions. Our own lamented Dr. Cowling characterized massage as a great remedy for those that are well, but will not take exercise, and are not too lazy to lie down and be rubbed.

The pendulum must swing back from the enervating artificialities of modern living to the plain and healthful simplicities of nature, from tentative instrumentation and drugging for the "cure" of disease to rational individual treatment on broad lines, if the invalidism which characterizes the people of our present civilization be prevented. The operative part, the instrumental aid or the dose of medicine is generally attended to, while the habits and habitation of the patient, his food and drink, do not usually receive the consideration which their importance as factors in the treatment deserve. Three minutes without air, three days without water or three weeks without food usually results in death. Air may, therefore, be considered as the chief thing that the body wants, though it is true that we cannot live on air alone, but also require food and drink. Yet the dangers of air sewage or rebreathed air as an insidious poison in public places—churches, schools and stores—is not fully recognized by the laity. While municipal legislation in the matter of cleanliness is principally confined to filthy gutters and alleys whose obnoxious odors wound the sensibilities of our olfactories, we have not yet progressed so far as to include the close and corrupted air of stores and factories as a menace to our health. Probably the most important question in hygiene that confronts the people, especially of the cities of our country, is that of air sufficiently pure to give them more red blood, better digestion and invigorated muscular and nervous systems. Many of the large department stores and offices, with their artificial modes of heating and ventilation, are nothing more than disease-breeding colonies, owing to their lack of fresh air. Our sky-scraping buildings may present thoughts and ideas of modern progress to the eye of the business man, but to the physician many of them are insidious death-traps. Sunlight and

sunlit rooms are at a discount in the houses of commerce and trade. Hotels are built so that the modern troglodytes who live there must eat, drink and sleep, and use the least possible amount of exercise and inhale as little air as possible. Electric lights that are really "dark with excessive brightness" burn brightly at noonday in the basements and offices of hotels and business houses, and Holy Light, offering of heaven, firstborn solar light, is excluded. In the summer time the atmosphere of those luxuriously furnished apartments have, owing to their peculiar construction, a close, debilitating and stuffy atmosphere. In winter a temperature of about eighty degrees pervades those buildings internally, while the mercury is many degrees below the freezing point out of doors. The unfortunate cave-dweller who lives under such conditions cannot continue in the possession of good health for many years. Such an existence does not tend to longevity. The tendency in the present fashionable style of architecture in our cities is, unfortunately, to minimize space, rooms being made very small and windows so arranged as to exclude the air to a great extent. How few patients, who consult a physician, deem the question of pure air of any importance as a remedial agent to strengthen their debilitated constitutions! Many of the wage-earners of our cities, but particularly women employed in stores and offices, are underfed, owing to lack of proper respiration, the last act in the process of digestion. The shop girl who hurriedly eats a piece of bread and butter and takes a cup of coffee for breakfast, enters the street car, crowded almost to suffocation by persons going to their different places of employment, and incarcerated afterward for hours in a business dungeon or a close workshop, without having the privilege perhaps of resting her weary limbs even for a moment, has no appetite for her scanty lunch, and less for the evening meal when she returns home fatigued and exhausted. Lack of fresh air, proper exercise and sunlight render her an easy prey, owing to the lessened power of vital resistance, for the germs of consumption to feast upon.

The limited space of this paper will not allow a notice of the importance of water, food, sunlight and exercise in the treatment of disease.

The physician deems it better to get his patients well with little or no medicine, if possible. He will carefully avoid using the word cure. While the number of remedial agents given in the books are legion, yet he selects only those that have been tested and found to be trustworthy and reliable. He partakes of the spirit of the artist. The quick eye, the observant gentleness, the sympathizing heart, the seizing of the actual circumstances, the impressionableness to all that is soft and winning, and lovely and weak and piteous, these belong to the true physician as well as to the true painter. He is an official minister to human sorrow, and recognizes in his professional work the highest type of duty, of man's humanity to man.—Lancet-Clinic.

The Murphy Button.

Jordan ("Revue de Chirurgie," supplementary number, 1898) states that in Czerny's clinic, at Heidelberg, Murphy's button is used in all suitable cases, and that, thanks to this appliance, the duration of an operation on the gastro-intestinal canal may be much diminished. Gastro-enterostomy may, it is asserted, be easily performed in fifteen minutes if the button be applied instead of sutures. The use of the button, the author believes, is free from danger provided attention be paid to contraindications. In his early experience of Murphy's appliance he lost three patients in consequence of perforation, but since he has used sutures instead of the button in the large intestine, he has employed the latter in more than a hundred cases without a single failure. It is important, he points out, to press the two portions of the button closely together. Supplementary sutures will in most cases be found useless.

The button, though it may be passed on the seventh or eighth day, is usually retained until about the twentieth day. In Czerny's clinic gastro-enterostomy with Murphy's button has been performed in eighty-three cases—sixty-three of cancerous and twenty of non-cancerous stenosis of the pylorus—with a mortality of 12.5 per cent.—Gaillard's M. J.

Dr. G. Fütterer was recently elected professor of pathology in the Northwestern University Medical School. A better selection could not well have been made.

THE MEDICAL LIBRARY.

A Manual of Practice of Medicine.

Fourth edition, revised and enlarged. By A. A. Stevens, A. M., M. D., Instructor of Physical Diagnosis in the University of Pennsylvania and Demonstrator of Pathology in the Woman's Medical College of Philadelphia. Specially intended for students preparing for graduation and hospital examinations, and includes the following sections: General Diseases, Diseases of the Digestive Organs, Diseases of the Respiratory System, Diseases of the Circulatory System, Diseases of the Nervous System, Diseases of the Blood, Diseases of the Kidneys and Diseases of the Skin.

Contributions to the science of medicine have poured in so rapidly during the last quarter of a century that it is well-nigh impossible for the student, with the limited time at his disposal, to master elaborate treatises or to cull from them that knowledge which is absolutely essential. From an extended experience in teaching the author has been enabled, by classification, to group allied symptoms, and by the judicious elimination of theories and redundant explanations to bring within a comparatively small compass a complete outline of the practice of medicine.

Each section is prefaced by a chapter on General Symptomatology. Post 8vo, 512 pages. Numerous illustrations and selected formulæ. Price, $2.50. Published by W. B. Saunders, Philadelphia.

Essentials of Bacteriology.

By M. V. Ball, M. D. Third edition, revised, with 81 illustrations, a portion of them in colors, and five plates. The author has endeavored to provide a practical compendium on this subject; and in the revision has added the latest discoveries and ideas, especially those relating to the subject of Diphtheria, and has added a chapter on the Bacteriological Examination of the Organs and Cavities of the Human Body.

That a work of this size must necessarily be limited in its application there can be no doubt, but that the ground which it does cover is well covered is equally as apparent to the most cursory observer. It should be remembered that the work only aims at the essentials. Published by W. B. Saunders, Philadelphia. Price, $1.

Saunders' Medical Hand Atlases.

Atlas of Diseases of the Skin, including an Epitome of Pathology and Treatment. By Professor Dr. Franz Mracek of Vienna. Edited by H. W. Stelwagon, M. D., Ph. D., Clinical Professor of Dermatology, Jefferson Medical College, Philadelphia, etc. With sixty-three colored plates and thirty-nine full-page halftone illustrations. Philadelphia: W. B. Saunders, 1899. Price, $3.50.

A textbook on diseases of the skin devoid of illustrations would be an anomaly certainly. This volume, indeed, does quite fill the void in the experience of those who do not have the advantages of extensive clinical experience. These cannot be praised more highly than they really deserve, for they are works of art, and we are assured by competent critics that their perfection in detail and exactness in representation are truly remarkable. For this reason the volume will be of especial advantage as a help in the matter of diagnosis, a feature in skin diseases acknowledged both difficult and important.

The suggestions for treatment and various prescriptions are in each case given in the text and illustrations describing the disease.

Liquid Air as an Appetizer.

The story comes of a Russian physician who placed a dog in a room with the temperature lowered to 100 degrees F. below zero by the use of liquefied air. After ten hours the dog was taken out alive and with an enormous appetite. The physician, says the "London Engineering," tried the test himself. After ten hours' confinement in an atmosphere of still, dry cold, his system was intensely stimulated. So much combustion had been required to keep the body warm that an intense appetite was created. The process was continued on the man and the dog and both grew speedily fat and vigorous. It was like a visit to a bracing northern climate.—Bulletin of Pharmacy.

CHICAGO CLINICAL SCHOOL.

The following operations were performed in the West Side Hospital, during the month of May, the students in attendance at the Chicago Clinical School being present. Compiled by Senior Interne Dr. Bebb:

5 Appendectomy.
2 Multilocular Cyst of Ovary.
2 Tenotomy.
3 Pelvic Abscess.
4 Hemorrhoids—Excision and Clamp and Cautery.
2 Curettement.
1 Pyonephrosis.
2 Cataract Operation.
1 Perineal Fistula.
2 Osteomyelitis.
1 Pleuritic Effusion—Aspiration.
2 Mastoid Operation.
2 Cholocystotomy.
2 Ventral Hernia.
1 Carcinoma of Rectum.
2 Trachelorrhaphy.
1 Salpingo-öophorectomy.
2 Tubercular Glands of Neck.
7 Adenoids.
3 Tonsillectomy.
1 Tonsillotomy.
1 Polypus—Nasal.
2 Polypus—Aural.
1 Hypospadias.
1 Suprapubic Cystotomy.
1 Fibro-sarcoma of Uterus.
1 Carcinoma of Gall Bladder.
2 Acute Tonsilitis—Evacuated.
3 Herniotomy.
1 Craniotomy.
3 Vaginal Hysterectomy.
1 Trachelo-perineorraphy.
1 Renal Calculi—Drainage.
1 Carcinoma of Breast—Recurrent.
1 Nephroraphy.
1 Urethral Curuncle.
2 Deviation of Septum.
2 Paracentesis of Ear Drum.

Diphtheria: The Serum Treatment in General Practice.

P. H. Lyon ("New York Medical Journal," June 3, 1899) has from his experience with antitoxin in the treatment of diphtheria drawn the following conclusions:

1. Antitoxin, to be efficacious, should be administered early, the first three days being the reasonable time to expect good results.

2. The greater the time which elapses before the first dose, the poorer the patient's chance of recovery.

3. When immunized persons and those not so treated are exposed to the same chances of contagion, the immunized escape, and those not so treated "take" the disease. We may, therefore, conclude that all exposed individuals should be at once immunized.

4. As severe cases which, ordinarily treated, terminate fatally yield readily to this treatment, it is certainly to be regarded as good routine treatment, and as the early treatment is the secret of success, the serum should be employed in all cases in which diphtheria is even suspected, even before the bacteriological diagnosis is complete, it being perfectly harmless if properly administered. By this he means that the serum should be of standard preparation and not six months old, and that perfect asepsis is the rule.

5. The only unpleasant effect is that sometimes a slight urticaria is observed about the site of inoculation (occasionally becoming general). This gradually passes away in the course of a few days, and is of trivial importance.

The Difference in Effect between Criminal Abortion and Spontaneous Miscarriage.

Dr. Josephine L. Peavey ("Woman's Medical Journal," June), in a paper read before the Denver Clinical Society, says that the after effects produced by a criminal abortion are far more serious than those of a spontaneous or accidental miscarriage, for in the latter, after the death of the fetus, a period intervenes before its expulsion, and the placenta undergoes fatty degeneration as at term, but in the former the fetus is forcibly separated from the uterus and there is usually imperfect delivery of the placenta and membranes, which may be followed by septic peritonitis and septicemia. Displacements, diseased ovaries and tubes, metrorrhagia, and menorrhagia are a few of the evils which follow abortions, while to the dirty instruments and lack of care by the abortionist may be laid many a death.

The Chicago Clinic.

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J. HOMER COULTER, M. D., Editor.

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EDITORIAL AND BUSINESS OFFICES:
819 W. Harrison St., Chicago.

The lateness of our issue for June is due to the fact that Chicago photo-engravers have been on a strike for the past two weeks, and we were unable consequently to get the cuts for the illustrations. It requires more time when we are unexpectedly compelled to have our cuts made in Milwaukee.

Prof. W. E. Quine is compelled to take a much needed rest. While there is nothing serious in his case, he feels that he should in justice to himself recuperate during the summer. He has worked incessantly during the winter with both college and professional duties, and he as well has so many other interests at heart in both church and state affairs that it is indeed no wonder exhaustion is threatened. He has requested that his course of articles on Practice, which have appeared in the Clinic the past few months, excepting May, be postponed until the early autumn. We are for his sake glad to accede to his request if it will in the least measure contribute to his perfect and speedy recovery. We regret it for the sake of our readers. To those who have inquired concerning our reasons for the omission of the article last month, we offer the above explanation.

Much interest was manifested in the Medical Press Bureau at the Columbus meeting of the American Medical Association. Located in the spacious statehouse corridor, and convenient to the postoffice and registration bureau, it furnished a cool and comfortable rendezvous for doctors, editors and publishers and their lady friends. Information of all kinds was here dispensed to the inquiring visitor, while messenger boys, typewriter and stenographer were constantly at the disposal of the doctors.

By an oversight the footnote stating that the paper by Dr. H. McKennan, on "Symphysiotomy," in our May number, had been read before the Illinois State Society, at Cairo, was omitted.

THE TUBERCULOSIS CRAZE.

It might be truthfully said that the subject of tuberculosis is at the present time a veritable craze with the medical profession. Whether or not such condition was caused primarily by and because of the recent Tuberculosis Congress, or whether the congress was but a resultant manifestation of the general waking up upon the subject, matters not. Certain it is, however, that there are few subjects of more vital importance to the human race, or more worthy to be the cause of such general interest on the part of both profession and laity.

In the past few months volumes have been contributed to the medical journals on various aspects of the subject. Indeed, one would suppose that it was certainly an exhausted subject if he were to judge by the volume of the literature at his command. But until a positive specific is found for the condition, it cannot cease to be a prolific theme for the writer and an equally enticing field for the original investigator. Verily, a thousand and one remedies have been suggested; remedies

suited to a bone tuberculosis, a pulmonary, a hepatic, a splenic, an intestinal or what not, yet none of these purporting to be other than a probable relief, nor claiming the almost infinite value of being a scientific and positive specific.

There is great variety of opinion among editors whether or not the recent congress was of such signal benefit to the cause as was anticipated. It surely created a new interest in the possible prophylaxis of the disease, which, so long as we are unprepared to offer a certain specific for its treatment, must remain the phase of the subject which is paramount in importance to humanity.

It would seem not only reasonable, but very desirable, that this prophylaxis is one of the conditions which ought to be discussed more freely in the pages of the secular press, particularly in the better representatives of the popular periodicals. We can scarcely expect that the daily press will give room to more such contribution than is either of a newsy interest or colored with the sensational, both of which are entirely impractical as educators of the people. The medical journals are also impracticable as a medium of instruction, hence the family physician is left as usual to voluntarily assume the burden of preaching tubercular prophylaxis. He and he alone can drill into the minds of the laity the awful importance which attaches to the subject.

Compulsory notification is now suggested; but such would be unnecessary if the people had adequate practical knowledge of the condition and particularly of the possibilities of prophylaxis in its treatment.

The means of infection now labeled "dangerous" are so numerous, and in many cases so little suspected until recently, that many of them would appear ludicrous were it a less serious matter. The latest proposition is that domestic song birds are a most prolific source of infection; that they are especially subject to tuberculosis can no longer be questioned. When, therefore, the great number of these little feathered friends is considered, the possibilities in the case become at once apparent.

We are not of those who see no good in the recent congress; it will certainly, as was said above, at least tend to the dissemination of practical ideas. Some might well question the desirability of governmental interest in the matter, considering the manner in which the political equation enters into even those matters so important as the health and life of the people, e. g., some cases of quarantine regulation, many phases of the medical and surgical side of the late war, the rise of the anti-vaccination movement, and other instances might be mentioned; which rather tends to discourage the idea of even hoping for legislative assistance in the way of commeusurate appropriations for the study, control or relief of so prevalent and dangerous a condition as tuberculosis.

That comparative immunity from tuberculosis can in many instances be established there is no longer any doubt. That fact, in connection with many others of equal importance, such as the remarkable fact that hundreds of the most able and scientific of modern investigators have spent their lives practically in the scientific study of the tubercle bacillus. But when we consider, for the moment, what a grand and durable monument he will erect for himself who discovers the specific for tuberculosis, we need not wonder that there is a tuberculosis craze all over the world.

C.

THE AMERICAN MEDICAL ASSOCIATION.

The recent meeting at Columbus was in many respects the most remarkable one in the history of the Association. The attendance was not quite up to that of the Philadelphia meeting two years ago, but it was above that of the Denver meeting one year ago. Columbus as a host was cer-

tainly a success. The arrangements in every way were as if some wizard hand had done rare execution in the preparations for the event. Dr. Loving, as chairman of the committee of arrangements, won for himself an enviable reputation. Dr. Lawrence was everywhere and at all times in evidence, carrying out the promises he had made to the members that they should not regret coming to Columbus, and it is putting it mildly indeed to say that there was none who had good cause to regret it.

On Monday preceding the opening of the American Medical, as is usual, the various special organizations of one kind and another held their meetings. Among them may be mentioned the Association of American Medical Editors and Publishers, the Medical College Association, the Academy of Medicine, and the Association of Medical Examiners of the various states. The meeting of the Academy was held on Saturday as well as on Monday, and those in attendance say that the meeting was far beyond the ordinary in interest and attendance. The meeting of the College Association was an unusually interesting one from the fact that some points of more than ordinary interest relative to the standing of certain colleges came up for discussion. It amounted, however, to nothing further than a public exhibition of the real weakness of some of the older and more pretentious organizations.

The Editors' Association was the best attended meeting the organization has ever held. The paper by Dr. Emmet of New York was the leading feature of the session. In the evening the annual dinner was held in the spacious rooms of the Columbus Club. Dr. Love of St. Louis, the president-elect of the organization, was present as toastmaster and filled the position in his usual happy manner.

Tuesday the opening session of the American Medical was called to order in the Opera House by President J. M. Mathews of Louisville. After the invocation the president introduced Governor Bushnell, who delivered a most felicitous welcome to the delegates and visitors. This was followed by a welcome in similar tone by Mayor Swarty of Columbus. After the report of the committee of arrangements by Dr. Loving, we listened to the address of the president, Dr. Mathews, which has already appeared in the Journal of the Association. It was one replete with interest and good suggestions from beginning to end. Such was practically proven by the fact that, notwithstanding the intense heat, the large hall was, at this and all the following sessions, packed to its utmost capacity. Dr. Mathews as a presiding officer was all that his many friends had predicted he would be, simply ideal; with his ever-present dignity he constantly combined a diplomatic fairness that could not be taken exception to by anyone.

The attendance at the meeting numbered certainly near four thousand, inasmuch as there was a registration of about 1,800 delegates. The number of ladies was quite that of the Denver meeting, though it was hardly to be expected that the entertaining would be on so large a scale as was carried out by the Colorado people. However, the ladies were most agreeably surprised to discover that they would find themselves not only entertained, but rather would not be able to get all that was prepared for their pleasure.

On Tuesday evening, while the section dinners were in progress, the ladies were entertained on the "roof garden" at the Great Southern Hotel. On Wednesday they were taken in carriages to the various points of interest about the city, and in the evening attended some or all of the various receptions tendered, either that at the Great Southern Hotel, at which Governor and Mrs. Bushnell acted as host and hostess; or that at the residence of Dr. Loving; or the "Smoker" at the Aladdin shrine; or the concert at one of the parks, arranged especially for their benefit; or, as

many of them did, attend all of them for a short season and then repair to the roof garden to cool off.

Thursday evening the Columbus Board of Trade tendered a reception and ball at the Auditorium, which for uniqueness, completeness and perfect arrangement and execution was indeed a model. These affairs along with the various musicales, carriage rides and general attention from the reception committee made the stay of all those ladies who attended indeed a most enjoyable one from beginning to end.

We will not refer to the scientific program at length, inasmuch as it is published in full in the Journal, to which all of our readers have access, or at least certainly should. When a fee of $5 will get a publication of its character and give us all the details of such a meeting as that held in Columbus, it does seen strange that there would be a single practitioner of medicine in all this land who would forego the pleasure and satisfaction of getting the Journal, even if he did not care particularly whether or not he belonged to the Association itself. It was generally admitted in all the sections that the scientific value of the proceedings as a whole have never been equaled in the history of the Association. The programs of all the sections were long; a goodly percentage of those announced were present; the discussions generally were interesting, and it was only with the closest attention to time that near all those offered were heard by the sections.

The addresses on Surgery by Dr. Floyd W. McRae of Atlanta; on State Medicine by Dr. D. R. Brower of Chicago, and on Medicine by Dr. J. C. Wilson of Philadelphia, were each of intense interest, and were appreciated, as we said above, since the temperature at the time of their delivery was simply insufferable. Of particular interest was that of Dr. Brower, whose oration on "The Medical Aspects of Crime" received unstinted praise from all who heard it.

The business of the Association was gone through with accuracy and dispatch, yet it was devoid of that stigma of "railroading" which, it must be admitted, has characterized its work on previous occasions to a certain extent. This was more than likely due to the influence of the good advice in the address of President Mathews in opening the meeting.

The report of the board of trustees showed total receipts of $82,331.42, from various sources, with expenses for the past year of $62,669.96.

Ten thousand dollars of the surplus has been placed in the sinking fund and invested in bonds, making a total of $13,000 thus invested. The trustees reported a gradual increase in the growth of the Journal. For the last three months the management was greatly embarrassed by the sickness and death of the late editor, Dr. John B. Hamilton, as under his personal supervision the Journal had increased to nearly three times its original subscription, and had gradually obtained a well-equipped plant.

The board recommended an amendment whereby members in arrears for dues and the Journal for one year, instead of three years, as formerly, shall be dropped. In conclusion, the board reported upon the resolution of Dr. Bailey of Kentucky, offered last year at Denver, referring to the election of a general secretary for the Association and recommended that the by-laws be so changed as to admit of such election, the editor of the journal to be such secretary, and shall serve as such without compensation. The action is recommended, not from any hostile feelings toward the present secretary, but for reasons given, among which are "better reports of the meeting," "complete minutes," and "placing the responsibility for accurateness upon the editor of the Journal." Such an arrangement, the committee thought, would prevent changes, omissions and inaccuracies of the minutes of the meetings, a thing which has too often occurred in the past.

Many of the members met Dr. Simmons, the new secretary and editor of the Journal, for the first time on this occasion, and it is safe to say that he has created a most favorable impression among the members generally. As the Lancet Clinic well says, "he is well qualified to do a grand, good work for the Association, and will edit and publish the Journal in a creditable manner." We feel that a better selection for secretary of the Association could not have been chosen, but we do not believe it is right or just to ask him to do the necessary additional work that should be done without additional salary. Even the most willing horse will tire in time.

The exhibitors were well provided for in a temporary building erected for the purpose on the south side of the statehouse. It is impossible in our space to give a list of all the exhibitors present, or of those whose exhibits deserve especial mention from their character or worth. That perhaps attracting most attention was by the Arlington Chemical Company, in which was exhibited a large oil painting, entitled "The Country Doctor." C. Bischoff; Sharpe and Smith, The Pneumachemic Co. and many others might with equal propriety be mentioned. Parke, Davis & Co. on Friday tendered a complimentary excursion to Detroit to a number of the delegates, returning them to Columbus in time for the evening trains on Saturday evening.

The Committee on Nominations made the following report as the officers for the coming year. The report was unanimously adopted and such persons declared elected.

President—Dr. W. W. Keene, Philadelphia.

First Vice-President — Dr. C. A. Wheaton, St. Paul.

Second Vice-President—Dr. E. D. Ferguson, New York.

Third Vice-President—Dr. G. M. Allen, Liberty, Mo.

Fourth Vice-President—Dr. W. E. D. Middletown, Davenport.

Secretary—Dr. G. H. Simmons, Chicago.

Assistant Secretary—Dr. J. A. Jay, Atlantic City.

Librarian—Dr. G. W. Webster, Chicago.

Chairman of Committee of Arrangements—Dr. Philip Marvel, Atlantic City.

Trustees of Association Journal—Dr. E. E. Montgomery, Philadelphia; Dr. H. E. L. Johnson, Washington; Dr. C. A. L. Reed, Cincinnati.

Judiciary Council—Dr. J. E. D. Griffith, Kansas City; Dr. J. E. Cook, Cleveland; Dr. J. H. Ballaiche, Washington; Dr. J. B. Lewis, Topeka; Dr. J. W. Irvin, Louisville; Dr. F. H. Wiggin, New York; Dr. Walter Wyman, Washington.

Addresses at next year's convention:

"General Medicine." Dr. J. A. Witherspoon, Nashville, Tenn.

"Surgery." Dr. W. L. Rodman, Philadelphia, Pa.

"State Medicine." Dr. V. C. Vaughan, Ann Arbor, Mich.

The selection by the committee of Atlantic City as the next meeting-place of the Association was ratified.

Much to the surprise of many of the better medical men of the state of Colorado, Governor Thomas has vetoed the bill for a practice act presented to the legislature through the efforts of the medical profession of the state.

According to the "Medical Record," a woman in New York was arrested last week and arraigned in one of the police courts on a charge of intoxication. The magistrate saw that she answered his questions incoherently and seemed to be on the verge of a collapse. Without having her examined by a doctor or having any other investigation made, he committed her to an institution for fallen women. When she arrived there the house surgeon saw "alcoholism" written on the court papers that accompanied her, and so entered the case on his books, also without making an investigation. Early the following morning the woman died, and an autopsy showed that the cause of death was pneumonia.

ABSTRACT.

The State and "Christian Science."

The following editorial is so pointed, comprehensive, truthful and expressive that we take the liberty of appropriating it in almost its entirety, with apologies to Editor Christopher:

So inconsistent, so self-contradictory and so visionary and irrational a thing as is so-called Christian Science cannot be made a subject of legal action by a state, except by exclusion. The state cannot recognize and treat it as legally tangible, because there is nothing tangible about it. It is not a medical science, because it discards all that the world has for centuries regarded as means necessary to the cure of disease or its mitigation. It does not recognize disease as a corporeal reality; only as an illusion of the mind, dispelling which all so-called disease disappears as a cloudlet blown away by a gentle breeze. It is not a philosophy, because it is but the jargon of misused words, and even then used inconsistently and self-contradictorily. It is not a religion, because there is not a single rational element of religion in it. It is not Christian, because it recognizes not either the fact of sin, or its cure an atonement. It is the perversion of everything fundamental in Christianity, the gibberish of a disordered mind. It declares that there is no such a reality as disease, yet it claims to cure persons of incurable morbid action by mental, silent argument with the mind of the patient.

When such a piece of superlative nonsense invades the sick chamber, where the state has declared that no one but a qualified physician shall enter with means of relief; when such a one recognized by the state assumes, as its agent, the control and responsibility of the life of a citizen the state can say no to all others. Outside the sick chamber the "Christian Scientist" is a freedman. If he chooses to destroy his life by neglecting or spurning the means which both divine and human wisdom have ordained for its preservation, the state cannot legally interfere or intervene. Both declare in effect: "Ephraim is joined to his idols; let him alone." But so far as it takes control of persons, citizens or wards of the state, in a condition which all the world and divine intelligence recognize and designate as a disease or injury—thus far it comes under the cognizance of the state as respects matters that pertain to the medical and surgical care of its citizens, suffering under disease or injury. By attempting to cure disease by silent, mental arguing, and nothing else, it invades the field which the state has circumscribed by a barrier which only those can pass whom the state has recognized by legal provision.

To understand how far "Christian Science" intervenes and opposes or obstructs what the state has ordained, and how positively it negatives what the state deems as essentially necessary, we have but to hear what the revealer of the divine science of healing has declared as the only truth, and what the state has said, and the courts of final jurisdiction have declared to be the will of the state. The contrast and disagreement will appear so great as to forbid all compromise or accommodation, and oblige the extinction of one or the other.

The author of "Science and Health" says, besides hundreds of other things equally absurd, that "To prevent disease or cure it mentally, let spirit destroy this dream of sense. If you wish to heal by argument, find the type of ailment, get its name, and array your mental plea against the physical. Argue with the patient (mentally, not audibly) that he has no disease, and conform the argument to the evidence. Mentally insist that health is the everlasting fact, and sickness the temporal falsity. * * * If the case to be mentally treated is consumption, take up the leading points included (according to belief) in this disease. Show that it is not inherited; that inflammation, tubercles, hemorrhage and decomposition are beliefs, images of mortal thought, superimposed upon the body; that they are not the truth of man; that they should be treated as error and put out of thought; then these ills will disappear if the lungs are disappearing; this is but one of the beliefs of the mortal mind. Mortal man will be less mortal when he learns that lungs never sustained existence, and can never destroy God, who is our life." Was such insane jargon ever

heard outside the wards of a lunatic asylum? The renowed author does not seem to know the meaning and use of words; yet an inspired revealer ought to have so written as to have given to her revelation some consistency and sense.

Now, what do the courts of final appeal say of the state's relation to medicine; of its means in caring for sick citizens; of the reality of sickness and bodily injury? A legal authority, in a decision, says: "The state has an interest in the life and health of all its citizens, and the law under examination was framed, not to bestow favors upon a particular profession, but to discharge one of the highest duties of the state—that of protecting its citizens from injury and harm."

Of the practice of medicine by which the state cares for the life and health of its citizens, the courts say: "The practice of medicine is a pursuit very generally known and understood and so also is that of surgery. The former includes the application and use of drugs for the purpose of curing, mitigating or alleviating bodily diseases; while the functions of the latter are limited to the manual operations usually performed by surgical instruments or appliances;" and "to allow incompetent or unqualified persons to administer or apply agents, or to perform surgical operations, would be highly dangerous to the health as well as to the lives of the persons who might be operated upon; and there is reason to believe that lasting and serious injuries as well as loss of life have been produced by the improper use of medical agents and surgical instruments or appliances. It was the purpose of the legislature by this act to prevent a continuation of deleterious practices of this nature, and to confine the uses of medicine and operative surgery to a class of persons who, upon examination, should be found competent and qualified to follow their professional pursuits. * * * It is the purpose of the state to prevent persons who do not possess the necessary qualifications from inflicting injury upon the citizens by undertaking to treat diseases, wounds and injuries." From these statements it is perfectly evident that the state requires practitioners of medicine and surgery shall be educationally qualified for such work. What other means than drugs and surgical appliances physicians may deem necessary is of no concern to the state. Men may seek aid from heaven in whatever way God may be pleased to give it; that concerns not the state.

But "Christian Science" claims and pretends to a method of treating disease which neither God nor the state has ever recognized; and for this reason, and this alone, the state should not recognize "Christian Science" in any way except by positively prohibiting it from the sick room. The state deals with things tangible, material and real; yet "Christian Science" pronounces all such things myths, errors or dreams or imaginings. The state, therefore, cannot stultify itself and outrage common sense by recognizing "Christian Science" as a method of healing, and as taking charge of the sick and treating disease or an injury by silently and mentally arguing against the fact of disease. The sacredness of life is too great, and the health of citizens too important, to allow either to be jeopardized by transient schemes being placed on an equal footing with that which the experience and wisdom of centuries have sanctioned.

It is not claimed by rational medicine that remedial measures or surgical operations can cure in the sense that a basic substance removes the acidity of an acid. The surgeon removes a diseased part that would cause death if allowed to remain, or to await the chances of silent, mental arguing against the fact of disease. The physician's drugs but aid the vis medicatrix nature, which is the real force that cures disease; and a lengthened experience shows that this result does not always follow the use of such means. Nevertheless, their aid is none the less important and necessary. Divine and human wisdom have sanctioned the necessity and use of remedial measures, and declared the reality and seriousness of disease; and it is too late in the day for the world to go back on the conviction of centuries and take up transient fads.

The disappearance of disease without the use of medicine is not a mystery when we know the conservative and curative powers of the vital force; but the non-use of them is not justified on any ground when they are accessible. Even a claimed cure on the "Christian Science" method is not unconditional. The mind of the sick party

must be argued out of the notion that he is sick or injured. And what if the argument does not succeed? The most gullible disciple of the C. S. D. does not claim that success is universal. If the failure arise where drugs are used, the party is said to die, but as the body of the patient is but an illusion and the mind immortal, because it is God, "the science" says there is no such a thing as death.

How is the arguing to take effect in unconscious apoplexy or compression of the brain by any cause? And what of its power on the mind of a child not yet capable of reasoning? In either case the patient does not hear the argumentative pleading, and how is either to be cured? By arguing with the parent when the patient is a child of irresponsible age? Children have died under 'Christian Science" from the criminal neglect of giving them a reasonable chance of recovery. The law does not suffer a parent to allow a child to die from starvation when he is able to procure food. The child cannot do that for itself; nor can it choose a physician when sick. This is the duty of the parent; and if the child dies through his neglect, or because he is a "Christian Scientist," and, therefore, does not believe in either sickness or death, the fit remedy for such a parent is the electrocution chair. If a child should fall into a body of water capable of drowning him and the parent make no attempt to get him out because, as a "Christian Scientist," he does not believe that there is such a thing as water, nor in its ability to destroy life, every gamin on the street would cry, brute; and then apologize to the brute for his disrespect. He ought to, surely, because animals have been known to aid another in danger.

While the "cult" has nothing in it to commend it to enlightened minds and normal consciences; while it resembles more an effort of benighted paganism to attain the impossible outside revelation; and while it has in it nothing that is either scientific or religious, or even entertaining in a leisure hour, yet there are among its devotees many who exemplify a kind and gentle disposition very commendable; who seem impressed with the reality of what they believe (though everything but mind—God—is unreal) and manifest a fraternity of feeling worthy of more rational brotherhood; yet the soul of the "cult" lacks the inspiration of that source whence flow sentiments which have the quality of imperishable merit. That incomparable eulogy on love by the apostle to the Gentiles had in view only that love that is inspired by the Kanosis of the Logos—the only love of enduring value, and the only one that will avail mankind in the most critical moment of human existence. The devotees of the "cult" may traverse seas and lands to make proselytes, they may erect temples rivaling those of paganism, and exhibit a zeal and devotion excelled only by that of pagans and Christian martyrs, yet the "cult" is none the less the most shadowy of all shadows—a melancholy example of what the human mind may be led into by the siren song of unseen influences of a malign character.—Medical Herald.

Deaths from Christian Science.

The following appeared as an editorial in the Journal of the American Medical for June 10:

"One can hardly imagine a greater misfortune than for parents to have lost a child through their own misguided beliefs and then to be held criminally responsible for the same. This, however, is the position to which the belief in 'Christian Science' brings some individuals. With loss of faith in cherished belief that ought naturally to follow such an event, the affliction itself and the self-accusation, comes the additional affliction of publicity, and criminal prosecution is also a near possibility. How far the law would demand exemplary punishment in such a case cannot perhaps be said; it should err, if possible, on the side of mercy toward the unfortunate and already afflicted parents. But there is little ground for similar leniency toward the mercenary 'healers' who mislead and exploit their credulity under a hypocritical religio-medical guise. The occurrence of two recent cases of deaths of children from diphtheria in Chicago, and the exposure of an entire school of children to the disease by 'Christian Science' foolery, are the latest facts of the kind. We would be glad never to have to mention 'Christian Science' again; neither the name nor the thing itself is a pleasant matter of contemplation to anyone who has faith in the common sense of his fellows, but it is forever thrusting itself before the public in some unsavory and unsanitary way. Its victims have

our sympathy if not always our respect, but their active deluders have neither. Recent events in more than one populous center have begun to teach the public that their performances are perilous not only to individuals but also to the general welfare of the community."

Rules for Health.

A publishing house in Paris recently offered a prize for ten of the most effective rules for the preservation of the mental and bodily health. Physicians, surgeons and scientists from all over the world took part in the contest and over five hundred competitors of renown submitted their ideas. Dr. Decornet of Ferte-sur-Aube, a French author and scientist, won the prize, his rules being:

1. General hygiene: Rise early, go to bed early, and in the meantime keep yourself occupied.

2. Respiratory hygiene: Water and bread sustain life, but pure air and sunlight are indispensable for health.

3. Gastro-intestinal hygiene: Frugality and sobriety are the best elixirs for a long life.

4. Epidermal hygiene: Cleanliness preserves from rust; the best kept machines last longest:

5. Sleep hygiene: A sufficiency of rest repairs and strengthens; too much weakens and makes soft.

6. Clothes hygiene: He is well clothed who keeps his body sufficiently warm, safeguarding it from all abrupt changes of temperature, while at the same time maintaining perfect freedom of motion.

7. House hygiene: A house that is clean and cheerful makes a happy home.

8. Moral hygiene: The mind reposes and resumes its edge by means of relaxation and amusement, but excess opens the door to the passions and these attract the vices.

9. Intellectual hygiene: Gaiety conduces to love of life and love of life is half of health; on the other hand, sadness and gloom help on old age.

10. Professional hygiene: Is it your brain that feeds you? Don't allow your arms and your legs to become ankylosed. Dig for a livelihood, but do not omit to burnish your intellect and elevate your thoughts.—Texas Med. News.

Instruction of Health Officers.

At the meeting of the State Board of Health, recently held in Chicago, considerable interest was manifested by the members concerning the course of instruction for local health officers which is now being given by the Ohio State University to the health officers of Ohio, acting upon the suggestion and under the advice of the State Board of Health. As in Illinois, so many health officials are laymen, who naturally are deficient in sanitary and hygienic attainments, the board considered that a course at one of the universities of the state relative to the disposal of sewage, also a better knowledge of water supplies, milk and meat inspection, disinfectants and disinfecting, hygiene, and sanitation in general, especially for local health officers, would be of incalculable benefit, more especially if municipalities would appoint none but men who presented certificates of qualification. The board, therefore, in a resolution, heartily approved of the idea and recommended its adoption in Illinois.—Standard.

Criticism on the Whitehead or "American" Operation for Piles.

By S. G. Gant, M. D., Kansas City, Mo., in "American Journal of Surgery and Gynecology."

For a long time past I have had many patients each year who came to be treated for permanent stricture, incurable ulceration and unbearable puritus as a result of non-union following Whitehead's and the "American" operations. The latter is simply a modification of the former, and should bear Mr. Whitehead's name.

The advantages claimed for it are as follows:

1. That it is the most natural method and is in perfect harmony with surgery.

2. Excision (in addition to its simplicity) requires no instrument not found in an ordinary pocket case.

3. It is a radical cure and removes the peculiar pile-bearing area.

4. It is not more dangerous than other methods recommended for the removal of piles.

5. Pain is less severe than that following any other operation.

6. The loss of blood during the operation probably exceeds that of the ligature

or clamp and cautery, but dangers of secondary hemorrhage are unquestionably less.

I offer in notation the following criticisms to the above claims:

1. Excision is not more natural, neither is it more in harmony with surgery than are other operations.

2. Instead of being simple, it requires longer time, greater ingenuity and the best instruments.

3. Granting it is radical, just as good results can be obtained quicker with less pain, fewer complications and by less difficult operations.

4. It is equally dangerous to, if not more dangerous than, the clamp and cautery, to ligature; and it is certainly more often accompanied by complications.

5. Bleeding is often profuse during the operation, and secondary hemorrhage is not lessened by it.

Excision is the operation par excellence when the lower two or three inches of the circumference of the bowel is made up of spongy angiomatous masses, accompanied by profuse bleeding. Here nothing short of the amputation of the involved area will give permanent relief.

On the other hand, because of the complications that accompany and the sequelæ following the operation, it should be discarded for the treatment of ordinary individual pile tumors. Failure to get primary union is the principal difficulty, because of infection, tension on the sutures and the straining after anesthesia. When a good result has been obtained patients are able to get about in twelve to twenty days. When non-union occurs the membrane retracts, leaving the sub-mucous tissues uncovered for an inch or more. Ulceration, stricture and pruritus follow in rotation, and the patient is left a permanent invalid and little can be done to alleviate his suffering.

Mr. Whitehead claims that once the pile-bearing area has been removed patients are exempt from piles thereafter. I have recently seen a man suffering from several large hemorrhoids who had been subjected to this operation several years ago. This demonstrates that the excision method is not more radical than either the clamp and cautery or ligature. In conclusion I will briefly enumerate my objections to this operation:

1. It is not suited for ordinary or bad cases of piles.

2. It is difficult and bloody.

3. Patients are detained in bed from six to fifteen days longer than after the clamp and cautery or ligature operations.

4. Owing to tension the post-operative pains are severe and may continue for several days.

5. Infection is frequent and terminates in a stitch or deep abscess and fistula.

6. Because of non-union ulceration, stricture and pruritus are common sequelæ.

7. The portion of bowel between the anus and the end of the retracted intestine loses its sensitiveness and there is also an absence of the normal secretions.

8. The nervous and mental state of these sufferers is pitiable to behold; many contract the morphine habit, while others "turn up" as chronic invalids in some sanitarium or asylum.

Normal Salt Solution.

In concluding a paper on transfusion of normal salt solution, "International Journal of Surgery," Dr. J. P. Webster, Professor of Abdominal Surgery in the Chicago School of Gynecology and Abdominal Surgery, summarizes thus: (1) Transfusion of saline solution should be practiced in all cases where there has been great loss of blood from any cause. (2) Take time to disinfect the skin before introducing the needle. (3) Seal the needle wound with collodium. (4) Transfuse: First, during operations where there has been even a moderate loss of blood; second, when shock is present either before, during or after an operation; third, in septic conditions, especially where the patient cannot retain the saline fluid per rectum. (5) Continue the transfusion until the pulse is of good volume. (6) Renew transfusion as soon as the pulse weakens. (7) Give at least three or four pints at the first transfusion, if there has much shock or loss of blood. (8) Continue the transfusions until the patient is dead or out of danger. (9) Use the solution hot from 108 degrees to 118 degrees F. (10) As a rule, the intercellular method is preferable to the intravenous: (a) Because it is less complicated; (b) it requires fewer instruments; (c) that which is most essential, it can be administered by any nurse with perfect safety;

(d) there is no attendant danger of overdistending the circulatory organs, as in the intravenous method. (11) Always have on hand a two-quart aseptic fountain syringe, a sharp needle for intercellular, a blunt needle for intravenous, and a long, soft rubber tube for rectal transfusion.—Amer. Jour. Surgery and Gynecology.

Of What Value is Gargling?

It has been repeatedly emphasized that gargling is an improper mode of treatment. Saenger gives the result of a valuable series of experiments on this question. He touched the tonsils of his patients with methylene blue and made them afterward gargle with water, which always was discharged clear and unstained, demonstrating that the fluid used for gargling does not reach the tonsils. Only in exceptional cases persons will be able to gargle in such a way that the tonsils and the pharyngeal walls are reached by the fluid, and it is therefore more rational to paint the parts instead of making the patient gargle. Perhaps it is best to touch them with cotton swabs.—Med Review.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

The date of the next meeting of this association, to be held in Chicago, has been changed from September 12 to 15 to October 3 to 6 inclusive. The autumn fête, to be known as the American Festival, will be held in Chicago, beginning September 25 and ending October 9, with the laying of the cornerstone of the Federal building, when the president and the cabinet will be in the city. During this time the railroad fare to Chicago from all points will be a flat one-fare rate for the round trip, without the necessity of certificates or signatures. The limit of the tickets is so long that a protracted stay can be made in Chicago in order to take advantage of the clinical facilities of the meeting as well as to enjoy the added attractions of the festival.

Chairman of the committee of arrangements, Dr. Moyer, has the plans well in hand and much of the necessary detail has already been completed. Everything possible is being done to make the meeting the most noted one in the history of the society.

ITEMS.

Dr. William E. Quine, it is said, has withdrawn his resignation, recently presented, as dean of the College of Physicians and Surgeons, the medical department of the University of Illinois.

Dr. D. A. K. Steele and family have gone abroad for the summer. They will sojourn in various parts of Europe until the autumn openings of the medical schools call the doctor home to duty and business.

Dr. John S. Miller of Peoria, who was recently very successfully operated upon for chronic appendicitis, in company with his wife and son, Dr. Sumner Miller, will sail for German resorts the latter part of June. The latter will be remembered as one of the successful candidates for interneship in the Cook County Hospital examinations recently held for that purpose.

Dr. W. A. Brokaw, a prominent and promising young physician of St. Louis, died recently of heart disease. He was assistant to Dr. W. C. Glasgow of the Missouri Medical College.

The West Side Hospital Training School for Nurses held its graduating exercises on June 10. There were fourteen graduates. The address of the occasion was delivered by Prof. J. B. Murphy.

Chicago instrument houses have apparently felt the impulses of a revival of trade. The latest to move into new and more commodious quarters are Sharpe & Smith, who now occupy elegant quarters at No. 92 Wabash avenue.

The State and American Medicals have met and passed into history. The next historical event in medicine will be the meeting of the Mississippi Valley Medical in Chicago in October next. Make your plans to come.

Dr. Nicholas Senn was again honored by the trustees of Jefferson Medical College at their last commencement by their conferring the degree of LL. D. upon him.

Dr. G. Frank Lydston, who recently took a trip to southern climes for the benefit of his health, has returned much improved. It seems our note in the March issue in reference to the election of another gentleman to the department of Genito-Urinary Surgery in the P. and S. College was based upon misinformation, as Dr. Lydston will still occupy the above chair in that institution.

The International Association of Railway Surgeons held their annual meeting the latter part of May. The officers elected for the year were: President, Dr. Albert I. Bouffleur, Chicago; secretary, Dr. L. J. Mitchell, Chicago; treasurer, Dr. E. R. Lewis, Kansas City.

The Italian newspapers are publishing marvelous tales of an alleged radical cure for tuberculosis discovered by Prof. Vincenzo Cervello, professor of materia medica and pharmacology at the Royal University of Palermo. The remedy consists of formalin administered hypodermically. —Recorder.

The Florida legislature received a memorial recently from the Florida Medical Association, calling attention to the rapid spread of tuberculosis, and asking legislation to prevent its spread. Among the measures advocated were the prohibition of indiscriminate kissing and a law against spitting in public places.—Recorder.

The following are some of the bequests of the late Mr. Andreas Syngros of Athens: $250,000 to the Evanghelismos Hospital, $50,000 to the Elpis Hospital, $75,000 to the Dromokaition Lunatic Asylum, $125,000 to the Amelieiori Orphanage, $50,000 to the Kadji-Kosta Orphanage, $75,000 to the Children's Hospital. There is also to be erected upon an extensive estate at Oropos, valued at about $800,000, a marine sanitarium for scrofulous and convalescent children.—Med. Age.

The Alumnæ Association of the Northwestern University Woman's Medical School held its nineteenth annual meeting on June 15 at the Woman's Medical School, 337 South Lincoln street, Chicago, Ill. Dr. Julia Cole-Blackman, Geneva, Ill., was elected president; Dr. Eliza H. Root, secretary, and Dr. Mary C. Hollister was re-elected treasurer. The reports of the treasurer and the various committees showed the association's condition to be one of prosperity. The appointment of Mr. Marie J. Mergler, one of the alumnæ, as dean of alma mater was indorsed and the university authorities were thanked for the appointment. The Earle Memorial Library reported five hundred volumes on its shelves, a very satisfactory growth for the short period elapsed since its foundation.

Among the recent arrivals in medical journalism is one called the "American Medical Quarterly," which bears the earmarks of editorial experience, though edited anonymously. The articles are of exceptional merit and all by well-known and prominent writers, e. g., Dr. J. M. Mathews, Dr. H. A. Hare, Dr. M. D. Mann, Dr. C. A. L. Reed, Dr. Lawson Tait, Dr. Wende, Dr. Nouerede, Dr. J. O. Roe, Dr. George H. Fox and others. If the prestige of popular contributors amounts to anything, the "Quarterly" will be a howling success.

The latest reported cancer cure is attributed to the Brussels physicians, Drs. Roquette and Lapo, who, according to recent reports, have discovered an effectual serum treatment.

A contribution amounting to about $75,000 has been donated by Baron Heyl zu Herrnshein, a National Liberal member of the Reichstag, Berlin, toward furthering the movement for the erection of sanitariums for tuberculous patients.

Late reports inform us of the death of Lawson Tait early in June. One of his former classes of American students had never all gotten together until the meeting at Columbus, at which time a large group photograph was taken and sent to Mr. Tait, but his death was reported a few days later.

Dr. Emil Mayer of New York, ex-chairman of the section on Laryngology of the American Medical Association, has been appointed editor for America of the "International cbl. f. Laryngol. und verwandte Wissenschaften." Dr. Felix Semon of London is editor-in-chief. We congratulate the above publication on the wisdom of the choice.

Prof. Roswell Park makes the startling prophecy that if for the next ten years the present relative death rates are maintained, in 1909 there will be more deaths in the state of New York from cancer than from consumption, smallpox and typhoid fever combined.

The newspapers report that the people of Omaha are afflicted with a milk supply so altered by the addition of preservatives that the sanitary authorities have felt called upon to warn the citizens of the great danger of feeding infants with the milk. We are not told what chemicals have been used, but there can be no excuse for the use of any as preservatives of the milk provided for a city like Omaha.—Med. Rev.

The marriage of Dr. Alfred Stillé, ex-president of the American Medical Association and emeritus professor University of Pennsylvania, to Miss Katherine A. Blackistan of Chestertown, Md., occurred June 14. The groom is 85 and the bride 58. Dr. Stillé is a widower and was the predecessor of the late Dr. Wm. Pepper in the chair of medicine in the University of Pennsylvania.—Jour. Amer. M. A.

If you believe that the operation has been a clean one, leave the wound alone if not an infected one. The best surgeons usually apply but one dressing, the first. When this is removed the stitches are taken out and the wound only needs a clean covering for a few days.

A resolution to request the revision committee of the Pharmacopeia to expunge from its pages all reference to the metric system of weights and measures was presented to the Missouri State Medical at its recent meeting. The motion was almost unanimously laid on the table.

At the recent commencements the number of graduates was as follows:

Georgetown University	15
California Medical College	18
Creighton Medical	15
Rush Medical	167
Jefferson Medical	85
Detroit College of Medicine	27
University of Denver	11
Cincinnati College of Medicine	11
Buffalo University	46
Bellevue Hospital Medical	160
Medico-Chi. of Philadelphia	179
Long Island Hospital Medical	60
West Penn. Medical	49
Miami Medical	16
Gross Medical	12
Harvey Medical	16
Omaha Medical	13
Richmond University Medical	68
Cleveland College of Medicine	25
St. Louis College of P. and S.	75
Cornell University Medical	58
Johns Hopkins	32

Blood on the hands should be washed off in clear water; soapy water does not dissolve blood rapidly. Clear water and a nailbrush should come first, soap next.

Prof. Snellison says that only 900 persons in 1,000,000, according to medical authority, die from old age, while 1,200 succumb to gout, 18,400 to measles, 2,700 to apoplexy, 7,000 to erysipelas, 7,500 to consumption, 48,000 to scarlet fever, 25,000 to whooping-cough, 30,000 to typhoid and typhus and 7,000 to rheumatism. The averages vary according to locality, but these are considered accurate as regards the population of the globe as a whole.—Amer. Jour. Health.

Dr. Wm. Osler has resigned his position as dean of the Johns Hopkins Medical School. The report does not inform us whether or not this resignation carries with it Dr. Osler's entire connection with the school.

Dr. H. B. Stehman, superintendent of the Presbyterian Hospital, was recently operated upon for empyema of the lung. He is now recuperating in Denver, from which point comes the news that he is improving very satisfactorily.

MODERN THERAPY.

SANMETTO IN GENITO-URINARY DISEASES AND AS A REBUILDER.

I have used Sanmetto in a great number of genito-urinary diseases; also as a rebuilder of strength throughout the genito-urinary tract, always with the happiest results. This is the first and only testimonial I have ever given in twenty years' active practice of medicine.

C. H. ECKERT, M. D.

Marion, Ind.

SANMETTO IN ALL FORMS OF VESICAL DISEASES.

I have found the preparation known as Sanmetto a most excellent remedy in all forms of vesical diseases that have come under my observation, especially the cystitis attendant on the presence of stone before and after its removal, and also the vesical tenesmus from colds and urethral inflammation, both specific and non-specific.

JNO. R. PAPIN, M. D.

St. Louis, Mo.

SOLAR HEAT.

Direct exposure to the sun's rays, employment in or living in hot and poorly ventilated offices, workshops or rooms are among the most prolific causes of headache in summer-time, as well as of heat exhaustion and sunstroke. For these headaches and for the nausea which often accompanies them, antikamnia will be found to afford prompt relief and can be safely given. Insomnia from solar heat is readily overcome by one or two five-grain antikamnia tablets at supper-time, and again before retiring. If these conditions are partly dependent upon a disordered stomach, two five-grain antikamnia tablets with fifteen or twenty drops of aromatic spirits of ammonia, well diluted, are advisable. For the pain following sun or heat-stroke, antikamnia in doses of one or two tablets every two or three hours will produce the ease and rest necessary to complete recovery. As a preventive of and cure for nausea while traveling by railroad or steamboat, and for genuine mal de mer or seasickness, antikamnia is unsurpassed and is recommended by the surgeons of the White Star, Cunard and American Steamship lines.

The Louisville "Medical Monthly" has passed into the hands of the Louisville Medical Monthly Company, with Dr. Henry E. Tuley as editor. Congratulations are extended to Dr. Tuley and to the patrons of the "Monthly."

The following were elected officers of the American Protological Society: President, Dr. Joseph M. Mathews, Louisville, Ky., the retiring president of the American Medical Association; vice-president, Dr. James P. Tuttle, New York City; secretary-treasurer, Dr. Wm. M. Beach, Pittsburg; board of counselors, Drs. Samuel T. Earle, Baltimore, Md.: A. Bennett Cooke, Nashville, Tenn., and J. R. Pennington, Chicago. The next annual meeting of the society will be held in Washington, D. C., in May, 1900.

Dr. Thos. Osmond Summers of St. Louis, late major-surgeon in charge of the fever hospital at Santiago, shot himself through the head in that city on June 20. Fancied lack of appreciation of his services by the government brought on suicidal despondency. Dr. Summers was a man of talent who had experienced a varied career, and his end was as tragic and full of sentiment as his life had been.

The revival of financial prosperity brings among other conditions the establishment of new journal enterprises. This year will certainly be the record one in this line, inasmuch as there has already as many new claimants for support appeared as there was during the whole of 1898.

ARTHUR R. EDWARDS, M. D.

THE CHICAGO CLINIC

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Laryngeal Tuberculosis.

By J. HOMER COULTER, A. M., M. D.
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[A clinical lecture before the Chicago Clinical School, June 16th, 1899.]

Gentlemen:—Among the patients to whom I would invite your attention this morning are two in particular, whom I believe will be well worth our careful study. The first one is a man, thirty-one years of age, giving a history of hoarseness. This is practically all that he complains of. He admits that he has at times a more or less troublesome cough and that such cough has bothered him frequently, without sufficient apparent cause for its existence, for the past year and a half. He maintains that he has had no physician for ten years excepting an occasional prescription for these repeated "colds," which "always settled on his chest." The hoarseness, which is quite apparent, he says, began about three months ago, but for the month last past has been gradually getting worse. He admits having had penumonia when a lad of twelve or fourteen years of age. His family history is excellent so far as tuberculosis is concerned, the only case in his relatives being an aunt on his mother's side.

Owing to the character of the hoarseness we are forced to suspect the existence of a serious condition in the larynx. He positively denies the possibility of syphilitic infection, and all the evidences presenting bear out the truth of his statement.

On examination with the mirror we find that there is no ulceration of the mucous membranes observable; there is little or no hyperemia of the larynx or any part of it. But there is present in a marked degree a most important symptom, which I wish to call to your especial attention; it is this: You will observe that there is a turgescence or tumefaction of both arytenoid cartilages; they are rounded and puffed out to four or more times their natural size. Such swelling practically precludes the possibility of the false vocal cords functionating, and this hoarseness results.

The gentleman will remove his clothing so that you may have an opportunity of examining his chest, and I do not think that it will require a more than ordinarily expert ear to detect very positively that there is trouble in the apex of the left lung, and probably also in the bronchial portion of the same side.

The interne informs me that his temperature is now 99.2 degrees.

With these symptoms before us are we quite warranted in making a diagnosis? Not certainly a positive one, though we would expect the microscopical work on the sputum to prove our expectations.

(A subsequent examination of two specimens of sputum showed a few bacilli in the first and greater numbers in the second specimen.)

With the condition of the lungs we have here presenting, I am not of the opinion that the infection in this case, if it should prove to be tubercular, was a primary infection of the larynx; but, on the other hand, that such a condition can and does at times exist, I have no doubt.

If we recognize it as a fact that tuberculosis does attack primarily almost, if not every other part of the human economy, there is no reason why it does not similarly attack the larynx; and, furthermore, it is rather our inability to recognize it as such

than that it does not occur. There has been no reason advanced why this portion of the body should be blessed with such an immunity. I am convinced that it is simply because we have not yet reached that point of perfection in auscultation and percussion. Doubtless there frequently do exist some insidious and concealed symptoms of pulmonary infection, which we are unable to detect. But we must argue from our present knowledge and not from the exactness we may hope some day will be attained by ourselves or others. The lamentable fact that we do not see these cases soon enough has become a veritable hobby of the profession, as well as a nightmare to the laity.

What have we done to better those conditions and assist in securing an earlier opportunity for diagnosis? What has been added to the accepted symptomatology in the last ten years? Among the things that have been added are exactness and certainty in microscopic minutiæ and the work of the bacteriologist generally.

Circumstances would seem to force the conclusion that we have forgotten to make the most profitable application of our knowledge, not that there should be publicity given to the fact that we hope to cure cases of laryngeal tuberculosis if we could but see them earlier, but only by a legitimate and ethical assurance lead our patients to a realization of the increased probability of success when we do see them early, for only thus can we expect a reliable demonstration of our theories of prophylaxis and cure. We must impress upon those, whom we find to be within the pale of its implacable influence, the importance of recognizing, and constantly combating, those elements of predisposition and heredity which may chance to be present, for I am also convinced that there is no more important element in the etiology of laryngeal tuberculosis than that of predisposition and heredity, even though it may seem often, as in the case before us, to be entirely absent.

The early diagnosis is of all matters the most important consideration for both the patient and physician.

In the case before us all the laryngeal indications would certainly portend a favorable prognosis. With a fairly well nourished male patient, no ulceration and a limited pulmonary involvement, under favorable hygienic surroundings, we might even in this climate have good reason to hope for a cure. But with this patient, who is a laboring man on a meager salary and with a large family, it becomes a more serious problem.

Vanderpoel has perhaps made as extensive studies in laryngeal tuberculosis as any other American. He has suggested two quite original, and, let us hope, reliable, premonitory symptoms, which have not yet been fully determined. It will require more time and more test cases to determine whether or not these two symptoms are thoroughly reliable diagnostically. One of these symptoms is a gradual but constant weakening of the voice, which we find present in this patient. The first symptom that appears, according to Vanderpoel, is the constantly increasing effort at phonation. It seems to me his argument is very reasonable and probably contains a considerable amount of truth. The other presumptive symptom that he has advanced is that long before there is evident any infiltration of the mucous membranes or tissues, or before there has occurred any ulcerative process whatever, there is over the mucous membrane of the arytenoids and vocal cords, perhaps on the epiglottis as well, a thin, sticky, whitish mucopurulent secretion. This can be seen in almost all cases, though only to a very limited extent in this one. I am inclined to think that Vanderpoel's observations along this line will prove to be valuable and perhaps safe to rely upon. In two other cases which I recall I was able to make a comparatively early diagnosis of incipient tuberculosis of the larynx, largely

on account of these symptoms. There is no doubt that we frequently have such a condition as laryngeal tuberculosis present, following weakness of the voice, and at these times the arytenoids may be covered with this secretion of which I have spoken. If so, it compels us to make a thorough examination of the lungs, and, if possible, there to detect any beginnings of the disease. Vanderpoel considers the weakness of the voice to be almost pathognomonic of incipient laryngeal tuberculosis. I am inclined to think that the remarkable anemia present very early in most of these cases is of equally great importance and that the turgescence or hypertrophy to which I have already called your attention is of much more consequence. I recognize, at the same time, that there are many good authorities who claim that the first symptoms we have in laryngeal tuberculosis are those of congestion, lasting for a few weeks or a few months, giving way to the anemic condition.

The other case which I wish to show you in this connection is one presenting many more of the typical signs of the disease. This is in part accounted for by the fact that the case is one considerably farther advanced in the course of the disease.

The young lady whom I will show you is twenty-two years old; she comes with a diagnosis of tuberculosis, having been made by several good men, and desires at our hands rather suggestions as to treatment than a diagnosis. Her family history is tubercular on both sides of the family, particularly on the maternal side.

The symptom of which she complains most bitterly is that of dysphagia, or pain on swallowing. This is at times intense in its severity. As you see, her efforts at phonation produce but a hoarse, rasping whisper, which is scarcely audible at ten feet.

On examination we see that there is in this case also an enlargement of the arytenoids, but notice that the right one is very slightly hypertrophied or turgescent, while the left one is apparently ready to burst from the tension. Then, also, observe that on the left arytenoid, extending down almost to the false vocal cord, there is one of those ulcerations to which I have already called your attention. Note particularly the destructive effect of the ulcerative condition which can be observed on the right true cord, making such a thing as approximation of the cords a physical impossibility, even were there no ulcerations at present. In such cases, however complete may be the cure as to life, it cannot be possible to restore the voice to its former quality and tone.

One of the most characteristic symptoms of tubercular laryngitis is dysphagia. It is in almost all cases extreme and excruciating. Indeed, if there is any one symptom in laryngeal tuberculosis that excites our sympathy, it is that of the pain from which these patients suffer in attempting to swallow. In the cases of incipient tuberculosis of the larynx that come to us this is not present. The pain is caused largely by the ulcerative process, and until the infiltration has broken down into ulceration, there is practically no pain. As a matter of fact, we as specialists do not usually see a case until the ulcerative process has begun, and more often when we first see the case the ulceration is well advanced. If a patient comes to us with a grayish ulcer, covered with a whitish, adherent secretion, such as we observe in this young lady, with this anemic condition also present, spreading laterally rather than as to depth, the diagnosis should be comparatively easy and almost certain. If with those conditions we find lung infection, some dullness, or the ordinary symptoms of tuberculosis, then our diagnosis may be reasonable certain, even without a microscopic examination. In all cases there is no question at this day as to the advantages we may obtain from a

microscopic examination. It is incumbent upon us to make a microscopic examination, and if we cannot make it ourselves we should have someone do it who can.

The progress of the disease corresponds to the progress of the condition elsewhere in the body when such is present. So, also, as the depression and the general powers of resistance decrease, so does the laryngeal condition increase. What are the earliest signs? Are there any symptoms before the infiltration? That question I have already briefly answered. If the indications that Vanderpoel has pointed out are correct, then happily, there are other symptoms; otherwise we may say there are none. Any localized anemia should excite our suspicion and force us to a thorough examination of the lungs, as well as other viscera.

Syphilis and tuberculosis may occur in the same individual. A number of cases have been reported of such occurrence, and when they do occur the most certain way of differentiating them, in the absence of a specific syphilitic history, is by the administration of the iodides. This can be thus determined in a few days or a week. The syphilitic ulcer is deeper and possesses a certain specific characteristic which will enable us to differentiate it usually without trouble.

In the ulcerations of laryngeal tuberculosis, contrary to what might usually be expected, we do not find tubercle bacilli present in more than one-half of the cases. I will not attempt to give a reason for this. I do not know why it does not occur, but authorities agree that we do not usually find bacilli present, especially in the superficial ulcers. In the deeper ulcers there is greater possibility of their lodgment, and it is usually here that we find the bacilli. Does this prove that the tubercular infection does not come from within, but is from without, either by breathing or from the lungs? I do not think that it does entirely. Some authorities have argued that the infection of a tubercular ulcer in the larynx must come through the blood or lymph channels. Others, on the other hand, maintain that infection of the tubercular ulcer must come from the sputa or mucus as it flows down, becoming infected in the mouth or throat.

What is the prognosis in these cases of laryngeal tuberculosis? In severe, acute cases all will agree that there is but little hope. Indeed, they are the most hopeless of all cases. On the other hand, in a certain majority of cases it will be admitted that we have a healing of the tubercular laryngeal ulcer. Heryng and others have reported spontaneous cures, but their duration is always a matter of doubt and uncertainty. It is my firm belief that permanent recoveries from laryngeal tuberculosis are very limited, even in the aggregate, but that I have observed cures I am as thoroughly convinced.

The prognosis will depend (1) on the amount of forced feeding the patient can stand, (2) on his general health at the time the treatment is begun, (3) on the extent of the infiltration, (4) on the amount of dysphagia present, and (5) on the effect the remedies exert in that particular case, as well as (6) on the application of the proper remedy.

The treatment must be either curative or palliative. Too often, as yet, it is only possible to make it the latter. There can be but little doubt, however, that if the case is seen in the initial stage, before there has been any reinfection, and while it is still well limited to accessible portions of the larynx, very much can be done by curettage and the application of proper remedies. The thorough cleansing of the larynx is of the greatest importance, both in exact diagnosis and for the comfort of the patient.

The most popular medicinal remedies are formalin, iodoform, guaiacol, caryophyllin, lactic acid, carbolic acid, protonuclein, iodol, and I might go on, ad infinitum.

A great many other remedies have been recommended, each one having its support; indeed, almost every practitioner has his favorite remedy in laryngeal tuberculosis.

In chronic cases, with extensive ulceration and tumefaction, none of these remedies can be depended upon with any degree of certainty. In primary infection, with ulceration, if the curettive process be thoroughly done, no doubt in many cases the focus of infection can be totally removed, and in those cases there is at least some hope of a complete cure. In more severe cases, however, a cure cannot be frequently expected.

In my own experience I have not found any other remedy so frequently satisfactory as I have the local application of guaiacol, at the same time giving it internally. I differ, however, from all authority with which I am conversant in that I use the guaiacol in a much more condensed strength than is usually advised. In many cases I have used it full strength, training the throat through a number of treatments until the patient tolerated the treatment without difficulty or resistance. Of course, we cannot begin with a strong solution of guaiacol. We must begin with a 10 or 20 per cent solution. I think in all cases an application such as the guaiacol or some one or combination of that class of remedies, will give us the most certain promise of healing the tubercular ulcerative process in the larynx. I will only add this, that while we are treating the local condition as we find it in the larynx, it is also incumbent upon us to treat the pulmonary condition elsewhere should it be present.

Chief Medical Inspector Spaulding of the Chicago Health Department, says that all danger from smallpox due to the recent case imported to the city is now over.

Unscientific Commercialism Contrary to Ethics and Good Manners.

By Isaac N. Albright, M. D., Chicago, Ill.

To a man possessed of a ready perception of sham and puffery, and the purity of sentiment necessary to prevent his getting rich, the spectacle of the rich canaille of the world, walking up and down the earth, going to and fro stupidly leering at honest industry here, posing as connoisseurs of art there, seeing others with much blare of trumpets ostentatiously and with mawkish sentiment claiming to be doing what they call charity. Others twaddling and yapping and yawning—purposeless, useless nothings, without snap enough in them to be even healthfully cussed; in fact, the farthest limit of the contemptible and absurd; all this is enough to make the before-mentioned man at times doubt the wisdom of creation, at least in so far as it relates to man.

These poor degenerates or specimens of "money greatness" are at once the disgrace and satire of our age. During the past two hundred years science has been accorded first rank, and it is to the shame of our century that its closing quarter places gross and insensate gold to the front as the foremost object of life. Surely the effect of this silly conduct must be so evident that no one can fail to observe the degeneration of character taking place under its influence. Many, striving to emulate the few who only can be successful, succeed only in making superlative asses of themselves in imitation of greater asses; the millions debased into sullen and debauched deadbeats and worthless vagabonds. Indeed, so common is this latter condition that it is safe to estimate nine-tenths of the young men of our large cities as destitute of common honesty.

It is the general opinion that the possession of great wealth, no matter how acquired, is the only requisite to social and

political elevation, and surely such opinion is justified by every factor that can be cited in the premises. In the press we are afflicted daily to nausea with the doings of millionaires and their families. The pulpit touches its forehead to the dust at the entrance of the millionaire. Certainly, how otherwise could it keep up these gorgeous palaces for Christ's sake? Everywhere is the belief current that government and the judiciary co-operate with wealth for the humiliation and subordination of the masses, and to protest against this condition is sufficient to gain the name of anarchist. The utter and hopeless fallacy of this boasted commercialism should be apparent to everyone.

In the domain of production the noble efforts of labor have festooned the world with grandeur. The inventive genius of the mechanic has constructed instruments of production that are marvelous in their capacities. In the matter of exchange, i. e., commercialism or supplying the people with the products of the earth, the same old barbarous system of buying and selling obtains as thousands of years ago.

Thousands of years have shown this system to be productive of but one unvarying effect, viz., enormous and despicable wealth for the few, with hopeless and inevitable poverty for the many. As an economic result, surely this is the utmost abomination conceivable; and yet we are told to defer to these mighty cannibals of commerce, and these benign gentlemen will solve the problem, to the glory of God and everlasting peace of man.

The ridiculous pretensions of these people are only exceeded by the few two-legged toads who prate about the divine right of kings. In all the affairs of man in which material profit is the object, disaster is the inevitable result.

In the pursuit of science, where money is not the sole stimulus to effort, quite the reverse obtains.

In law and theology the cloven hoof of commercialism has produced a stench that must extend deep in the ethereal blue. In the nobler and vastly more intricate and subtle science of medicine, having to do with the very principle of life itself, how different are the results. Here an entirely different line of conduct has been pursued. Here is a departure from the beaten path. Looking only to the development of truth in his domain, the physician, without the protection of patent rights or special privileges of any sort, indeed, often in the face of every legal and social obstacle, he has persisted in giving to the world the benefit of his research. By teaching people how to live; by establishing sanitary conditions; awakening in the minds and hearts of the people a desire for fundamental principles of knowledge concerning their physical existence, he has brought about sentiments of delicacy and ethical regard for the nicer amenities of life that will keep the race from returning to filthy skins and beastly practices which were so largely the sources of bodily decay when medicine was in the stage of development now occupied by theology.

Government, law and economics. These things are in a stage corresponding to the incantations, the sacred relic, "touching the king's garment" period of medicine. Relative to the requirements of the age, these things are in a hopeless state of dotage. Subjects hatched, grown and crystallized in barbarism. Each seemingly incapable of evolution. Law, whose basic principle of justice is death or further degradation of the offender. Religion, based upon eternal torture or hope of a harp of gold. Government, by a creature, child or adult, called a king, by money interests, by military power, and last government by injunction, a sort of boil or wart grown upon the old monster's back.

Then this poor, frail, sensitive, delicate child of finance—economics, a shambling

monstrosity begotten by law and government, a standing proclamation to the world of the conjunction of twin evils, combining the villainies of both. Yet we are advised not to let the winds of heaven blow too rudely upon this sensitive visitor, for it might die or take wings and fly away into the uttermost ends of the earth.

Economics—a system by which everyone sitting at the world's table charges a profit for passing the bread to the next man, and for fear the bread may become too common, too plentiful and too easy of possession, we have economic trusts to limit the amount of bread, for when once in possession of the majority of products there will be no danger of the toll falling below a good wholesome profit. Verily, verily, yea, verily, here is a quartet—law, religion, government, economics.

For sale? Well, rather. When have they not been for sale? The painful question is, how long will humanity continue to pay in blood and sweat and tears for such sorry stuff. Can time remove these offenses against humanity by gradational stages? Or will an enlightened race some day suddenly awaken to the fact of these monstrous hypocrisies and frauds, and what will the awakening mean?

To avoid further insult to common sense let us hear no more about the perfection of these institutions. Let the world keep in mind the spectacle of some flatulent old bloat of a judge, the priestly face, the Pecksniffian character of most statesman, the rooting, gobbling, gobbling, gobbling, worm-devouring financier. Let the damnable inefficiency of these systems be proclaimed from the housetops, the highways, byways and hedges. Let it be known to all men that the ancient justification of all rulers that "a government is always as good as the people deserve" is a cowardly subterfuge behind which sneaking and humbugging impostors have ever hidden the hideous results of their actions. Let the contrary be known, that the initiation in all reform has ever sprung from the great heart of the people. That every generation is struggling to unburden itself of some cursed load imposed upon it by state or church or some other devil devised ancient condition of authority. Serve notice that any attempt at a revival of ancient conditions in law and government is out of the question. Precedent always points ultimately into the darkness of savagery and is of no use except as it may indicate with purple stains the borderland of danger.

Make it more evident that the great law of evolution is ever existent. That these systems are only lingering evidences of long past misconceptions extended from the womb of nature during the long night of barbarism, during the horrid and loathesome development of our slightly more animal progenitors.

Ye judges and priests and rulers! Ye who crucified Christ! Ye who continue to curcify him daily in the killing of humanity! Do you never become satiated with your cruelties and deceptions? Can you not leave your sewer-rat customs of crawling in darkness and filth and walk forth with face upright in the full sunlight of truth? Remember the humanity of our age is ever receptive to something better. Own to the truth. Do not wait to have it dragged from you and thereby become more execrated in the minds of an intelligent posterity than you would otherwise have been. Drop your infernal mummeries and quackeries and lies, for be sure time will certainly discover you in your true light. Nothing is more certain than that time will discover the law to have been farthest from justice and the church farthest from Christ. Your main sources of revenue may for a time be destroyed, but those of you who are rightly inclined may thereby redeem yourselves by turning your attention to some more honest man-

ner of getting a living. None of you need despair. You have only been on a wrong tack. When a traveler finds himself on a wrong road he turns back and takes another course. You have been frightfully and criminally wrong. By wickedly persisting in your wrongdoing, you have retarded the perfecting of civilization by centuries, and your offense is the more unpardonable because you have had an illumination constantly flashed upon you from the exponents of a vastly more intricate subject; who are pursuing their object under the searchlight of science. You saw the glad acceptance with which the race received each new truth. You saw a race scourged, habituated to filth, with bodies the prey of vermin, loaded with all the horrors of disease that corrodes the tissues and makes loathesome sores.. You saw homes and cities and countries in sorrow because smallpox and cholera and every form of contagion and infection stalked through the lands and claimed their millions where war claimed its thousands. And in the midst of all this you saw a class devoted to a work which meant and has produced an almost complete annihilation of the frightful, the immeasurable calamity of epidemic disease.

Oh, wondrous transformation! The most wonderful incident in human history, and yet so natural and matter of fact has been its development that none remember its coming. Yet preachers and judges, fools and knaves, prate of the empiricism of medicine. Well, nature is a kind mother, and there is a long life ahead of even these.

Daily the doings of men in the rapacious practices of money-getting are chronicled far and wide. The doings of some tinpot soldier are exalted to the skies, no matter how reprehensible the cause in which he fights. There will be columns of foolish laudation upon the conduct of some woman of wealth, who in a burst of romance conceives that she has a mission to nurse the poor wounded heroes.

In the same account may occur the most scandalous and pusillanimous attempt at disparagement of men whose skill and scientific attainment almost calls back the dead to life. Men, who with courage and devotion reaching the sublime in character, make every restitution to nature violated and insulted by the ignorance of rulers.

In fact, it is probably within the limits of modesty to say that in the wondrous perfection to which the science of medicine has been carried, that here at least man has attained close to divinity. Here man, at least, walks close to the Creator, for more than perfection there cannot be.

In the face of this eternal bragging and strutting and dress parade of military, judges and humbug parsons, let us offer a protest. Let us call them to some slight accounting. Since they eternally assume such high and mighty importance in the world, let's learn the occasion, if such there be, for this sickening laudation.

Have they been anything more than a woful load on the back of the race in its difficult course of evolution? How could their vices, their wars, their numberless crimes, their endless impositions upon innocent credulity, their infernal and eternal conservation of barbarism in all the customs of life over which they have dominion, result in less than radical degradation? In fact, but for such as they, who seem to be nature's freak afflictions upon an otherwise inoffensive type of life, it would be reasonable to think that all human experiments might be as nearly perfected as medicine. How strange appears her isolation. How clear cut and distinct every line and angle of her perfect architecture as she stretches upward and is welcomed by the limitless heart of the Creator, whilst they grovel in the swamps and sloughs and mudholes, snarling over precedents, limiting their investigations to cheap disparagement and brow-beating of witnesses

by methods so cruel, so beastly, so antique, that by the side of which the cave man would appear a modern. Some of them may talk of the refining influence of a war of conquest, others may get by the ears over the relative merits of baptism by sprinkling or chucking the repentant sinner under water, body and breeches, and last, but not least among them, the gent who counts the prospect of more dollars in the advance or fall of the hog products. Surely the mercy of the Lord will indeed pass all understanding if anyone disputes right of possession with the devil over such as these.

Cite one fact approximating in importance the disclosure of the brain, the heart, the dissection and removal of the most sentient parts of the human organism without consciousness of pain. Indeed, give fullest scope to the imagination, and create even from limitless fancy possibilities of their ever approaching by a millionth part anything so wondrously, so divinely important to mankind as the cleansing of the earth of epidemic disease, a fact so inconceivable in import, so seemingly more than human that not one in ten thousand has ever appreciated it.

Then, and not till then, will they be worthy to sit at the feet of the profession of medicine.

A new publication in the medical line has appeared under the name of "St. Luke's Alumnæ Association Journal." While of particular interest to the graduates of St. Luke's, it is so well edited and so attractively arranged that its influence cannot be thus limited, judging from the initial number before us. It is under the immediate management of Mrs. Dr. Cuthbertson, who proposes to draw upon the staff of St. Luke's for desirable medical contributions and upon her many friends and acquaintances for other matter of interest. It will be issued as a quarterly.

Hemorrhoids Complicated with Pruritus Ani: Fistula in Ano in a Tuberculous Patient.

By J. Rawson Pennington, M. D.
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[A clinical lecture delivered to the Post-Graduates of the Chicago Clinical School, at the West Side Hospital, Chicago, May 26th, 1899.]

Gentlemen:—The first patient to whom I invite your attention this morning is sixty-seven years old, and was sent to me from Indiana. You remember he stated in his narrative that he has itching piles, and that for the past four or five years he has passed more or less blood with the stools, but that there has never been any pain during defecation, and that recently he has observed small tumors protruding during defecation. It is for these tumors and the itching that he seeks relief. You observe that by gently teasing the anus open the tumors are brought into view. You will also notice the white and parchment-like condition of the skin around the anus. This is indicative of pruritus ani and is the "itching piles" of which he complains. This latter ailment is sometimes due to, and caused by, internal hemorrhoids; whether or not that be true in this case we are not at the present able to say. However, if after the removal of the hemorrhoids the pruritic condition remains, we shall then treat it by first painting it with the compound iodine lotion, which destroys and removes this hard skin. After that we can apply other remedies very effectually.

I see that some proctologists are advising the treatment of these cases by anesthetizing the patient and then dissecting off this tough and hard skin by means of a

pair of dissecting forceps and scalpel. It seems to me that this is a very heroic measure for so simple a condition. I have seen many a bad case of pruritus ani, but never saw one that could not be cured without resorting to such heroic measures. A careful examination should be made of each patient coming to you complaining of a rectal trouble. Do not accept the diagnosis of anyone as correct, but make your own diagnosis. The history given by the patient is often of much value, and may aid you in surmising the existence of internal hemorrhoids, but you cannot and must not rely too much upon what the patient tells you. Not that he intentionally tries to be deceitful, but he is apt to have a wrong idea of his condition. It is not uncommon to see patients with growths on the outside of the rectum which they think have come down and properly belong inside. The patient may tell you he has piles, and give a clear history of hemorrhage and protrusion at stool, but this protrusion may be a polypus, or, as I recently saw in a case, the protrusion which was supposed to be internal piles was part of a malignant growth. Prolapse of the mucous membrane may also be mistaken for internal hemorrhoids. So you see the importance of a careful examination.

That I may more firmly impress the importance of the examination upon your minds, I will briefly relate a case bearing upon this point. A short time ago a competent physician with a lucrative practice in a neighboring town sent a patient with a note to one of our ablest surgeons, stating that the patient had had bleeding piles for the last two years, and that she needed an operation. The surgeon, being aware of the physician's ability as a diagnostician, accepted his diagnosis of the case as correct. The patient was sent to one of our principal hospitals and the hour set for the operation. As the surgeon was walking along the hall of the hospital to the operating room, he turned to the interne who was accompanying him and said, "Doctor, how would you like to operate upon this case of hemorrhoids to-day and let me act as assistant?" The interne replied that he would be delighted. The patient was prepared for the operation, anesthetized and placed upon the operating table. As the young interne attempted to pass his finger into the rectum, he hesitated, when the surgeon became excited and exclaimed, "What's the matter, Doctor?" The young doctor said, "Professor, if this is a case of piles, they are the funniest piles I ever felt." A careful examination was hastily made, which revealed a malignant growth of the rectum filling the pelvic cavity and involving vital structures to such an extent that an operation was deemed inadvisable. The patient was returned to her bed and died from the effects of the malignant growth in about one week thereafter. I do not believe that any of you will ever make such an error.

The diagnosis of internal hemorrhoids is not always an easy matter. It is not difficult if you can expose them so that they can be seen, but this is not always an easy thing to do. By giving the patient an enema, and as the water passes away directing him to strain down, these tumors may protrude and be brought into view; but too much reliance must not be placed upon this method of examination. It will frequently fail when large tumors actually exist. Failing in this, the patient may be placed in the Sims position and a bivalve or trivalve speculum introduced into the rectum and gradually opened, when the tumors may fall in between the blades. If there is much irritation, however, about the anus, this method will also be of but little or no use, because of the excruciating pain it will produce. Very often these tumors can be made out by means of the educated finger. Mathews tells us, on page 127, in his book, that in the quiescent state they cannot be felt when within the rectum. On page 128

he says: "The physician who relies upon forming a correct opinion as to the existence of internal hemorrhoids by the touch inside the sphincter will often be mistaken." Then, again, on page 129, he says: "They can be felt as well as seen." That they can be circumscribed by the finger, defined and counted. A slight contradiction, gentlemen. However, I would advise you not to place too much reliance upon the finger in diagnosing internal hemorrhoids unless it is well educated. So you see that all methods of examination at our command are more or less imperfect.

Treatment.—The treatment of internal hemorrhoids may be considered under two heads—palliative and radical. The former method we will not consider this morning. The radical method means an operation which should be preceded by a little preparatory treatment. This is best accomplished, I think, by giving the patient the second night previous to the operation from two to five grains of calomel in broken doses, and on the following morning a large dose of sulphate of magnesia. Then, six or eight hours before the operation, give him a colonic flushing. The night before the operation he is given a light meal, and on the morning of the operation his breakfast should be omitted. The patient now being under the influence of the anesthetic, we are ready to proceed, he having been given a bath and all instruments and everything concerned in the operation sterilized and made aseptic.

In operating I prefer to have the patient lying upon the left side, with the knees well drawn out and the buttock brought well to the edge of the table. Besides the anesthetists, there should be at least two assistants, one to help in holding the parts and the other to attend to the sponges, instruments, and so forth. Should you attempt to do an operation for internal hemorrhoids with no help except the one who gives the anesthetic, you will find it very awkward and difficult. There are a number of recognized methods of operating for internal hemorrhoids, but the ligature and the clamp and cautery are probably used more than all other methods combined, and of these two the ligature has the lead, and it is this method which we shall employ in this case. It cannot be gainsaid that the ligature is the easiest of execution, safest in its application and gives the best promise of a perfect result. I have been using this method for a number of years, and have never met with an untoward symptom. The results obtained by the use of the ligature are not disputed, even by the most sanguine advocates of the clamp and cautery, or other methods of operation, yet the method of its application is more or less disputed.

The favorite method of operating at St. Mark's Hospital is as follows: The patient being anesthetized and the sphincter well divulsed, each tumor is then separately grasped with a pronged hook and drawn down; the pile is then separated from its connection with the skin, submucous and muscular tissue upon which it rests. The incision is made where the skin and mucous membrane join, and is carried up the bowel parallel to it to such a distance that the pile is left connected by blood-vessels and mucous membrane only. A ligature is then placed in the sulcus and tied high up around the neck of the pile. The ligature should be drawn as tight as possible, and it is better to make three knots. This is a very popular method of operating, and one which I used for some time, but have abandoned it, except in cases where the tumors are small, for the method by transfixion.

Before applying the ligature it is important to carefully divulse the sphincter. In doing this I prefer my fingers to the speculum, as with them I get a better idea of the tone of the muscle, and am not so apt to overstretch or break it. I think it is a mistake to introduce a speculum and divulse

the sphincter as widely as the instrument will distend it, as recommended and practiced by some authors. Be very careful not to overstretch the muscle, or incontinence of feces may follow the operation. You notice now that I have fully divulsed the muscle, that there is no hemorrhage and that the pile tumors present themselves most beautifully. We shall now thoroughly irrigate the rectum with a bichloride solution and follow this with sterilized water. This done, we grasp one of the smaller tumors with the pile forceps, pull it well away from its base and make an incision with a pair of scissors at the junction of the skin and mucous membrane. A ligature is now placed in the sulcus and tied tightly around the neck of the tumor, as done at St. Mark's. We next catch up one of the larger tumors and after separating it from the skin by a slight incision a curved needle, threaded with stout braided silk, is passed through it. The needle is now cut away and the ligature, after being crossed and tied tightly, first on the side of and in the sulcus, then high up on the mucus side. Be sure to test the thread carefully each time before tying to see that the corresponding half is secure, else you may tie the wrong thread and no strangulation would then take place. The tumor, now being tightly tied on both sides, is cut off and the ligatures are also cut close to the stump. Having ligated all the tumors and checked the oozing from the cut surfaces, we dust the part with nosophen powder and then introduce into the rectum one of my rubber covered rectal tampons; then pack gauze well around the protruding part of the tampon and apply a pad of cotton and a T bandage, which completes the first dressing. A cathartic should be given the patient so as to move his bowels in about forty-eight hours, at which time the tube and all dressing should be removed. After the bowels have moved and the parts well cleansed by means of medicated or sterilized water, redust the field with nosophon powder and reapply gauze, cotton and a T bandage. These dressings should be applied twice daily until the parts are healed.

I believe that nosophen, because of its hemostatic, antiseptic and dry properties, is the best powder dressing we have for rectal work. I use it in preference to all others. It seems to have a happy effect upon the denuded surfaces.

* * * * *

The second patient to whom I wish to invite your attention, you will observe as he walks in, is very thin and emaciated. You also notice that he has a very bad cough. The patient is being treated by Dr. Waxham for a bronchial cough, and has been referred to me because of some rectal ailment. You heard him say, gentlemen, that defecation is not painful, but that there is more or less mucus or pus discharging from the anus all the time. You also remember that he gave us the history of an abscess that was poulticed until it broke, and that he has had a continuous discharge of pus ever since. The nurse now having him arranged upon the table, you see the pus oozing from an aperture in the left buttock, and by pressing with my finger around the anus I find a cord-like resistance extending from this opening toward the anus, which is a fistulous tract. It is the only abnormal sensation revealed to the touch in this region. We fail to find any internal opening by means of a grooved director. However, I am sure that one exists, as I can detect it with my finger. This patient has phthisis pulmonalis as well as the rectal fistula; the relation existing between these two conditions is a subject of great importance and well worth careful consideration. Physicians in treating the former trouble rarely mention the latter one as a complication, while, on the other hand, surgeons have noticed the frequent coexistence of fistula with pulmonary disease. A fistula

occurring in a tubercular patient may be either tuberculous or simple, the former being due to tuberculous ulceration of the rectum, while the latter is caused by non-tubercular abscess.

I just stated that the internal opening could not be found with the director. This is because of a tortuosity of the tract. The internal opening is easily felt. In tubercular fistula, the internal opening is often as large as a three-cent piece; however, it is not quite so large in this case. The external opening is usually large, also. You notice that the skin around the opening is bluish and undermined, and the discharge thin and watery. According to Koch, intestinal tuberculosis may exist either as a primary disease or secondary to pulmonary tuberculosis. In the first instance the source of infection is in eating the flesh or drinking the milk of tuberculous animals, while in the latter it is due to the patient's swallowing sputum containing the tubercular bacilli. Now, you say, if this be a source of infection, why is it that more persons suffering from lung tuberculosis do not have intestinal ulceration? Koch suggests as an explanation that it may be due partly to the fact that the intestinal mucous membrane is not very susceptible to infection by the bacilli, and to the slow development of the tubercular bacillus in the intestinal tract, he having been able to cultivate the germ of intestinal tuberculosis only nine times in six months. Furthermore, physiological digestion in the stomach destroys these germs. A digestion, however, of too short duration or of too little activity, may permit them to escape unaltered into the intestinal canal, where they will sooner or later begin their nefarious work.

A word in reference to the treatment of these cases. It is often very difficult to say when and when not to operate upon these patients. No general rule can be laid down because there are many stages of the disease, and every case requires special consideration. If it is a simple fistula in a tuberculous patient, and the cough is not too bad, and other things being favorable, operate. If it is tuberculous, be governed by its seriousness and extent and the general condition of the patient. Again, if it is tuberculous, it is obvious that a simple incision will fail. Where the cough is very bad failure is almost certain to follow. The constant coughing disturbs the rest necessary to the repair. In this patient the vitality is so low and the cough so constant that I think it not feasible to do a radical operation. In lieu of this I shall inject the tract with a solution of antinosine. I have used this solution in a number of cases and it seems to be quite as effective as any agent I have tried.

103 State street.

Hypodermic Use of Arsenic.

By HAROLD N. MOYER, M. D.
Professor of Nervous Diseases in Chicago Clinical School.

[At the request of the editor of the Clinic Dr. Moyer has this month substituted for his "Saturday Lessons" the following article, which was published in the Therapeutic Gazette several years ago.]

Amid the therapeutic scepticism of this age a few remedies have retained their popularity that have come down to us from the fathers. Among the first of these we rank arsenic. Its range of application is perhaps more limited than it was, and the indications for its use are more closely defined, but it is still of high repute in the treatment of certain chronic skin affections, diseases of the nervous system, and as an alterative and tonic. It is still considered of great value as an antiperiodic, though overshadowed by quinine, its more powerful and less dangerous rival.

In view of the known virtues of the drug, a certain and safe means of introducing considerable quantities into the system without

disturbance of the digestive tract must certainly be regarded as a distinct advance in therapeutics.

The hypodermic use of Fowler's solution has been recommended by numerous writters. Among others, Hammond, who claimed that the dose which could be administered in this way was much greater than could be safely administered by the mouth. He says, "I have frequently given as high as 35 drops of Fowler's solution as an initial dose. It is very certain that the stomach would not tolerate this quantity: Again, I have often carried the amount given by the mouth to the utmost bounds of prudence—till the eyes were puffed and vomiting was almost incessant—and then have continued the arsenic in larger doses, by hypodermic injections, with the result of the cessation of all gastric symptoms and the cure of the disorder."

Hammond certainly recommends larger doses than any author we have seen, with the exception of Eulenberg, who is quoted by Rosebach and Nothnagel* as having given .15 (2¼ grains) to .2 (3 grains) of pure arsenious acid without untoward effects. We cannot, however, but regard this as a misprint or an error in translating.

Dr. Frühwald† treated twenty-two cases of chorea minor by this method. He says that redness of the skin at the site of the punctures was common, and two or three abscesses formed. The dose was from 5 to 20 drops, and after the use of thymol and deeper injections no further trouble was observed.

Grunnach‡ treated one hundred cases of goiter with hypodermic injections of Fowler's solution, 1 part to 4 of water.

Dumont§ treated twenty-six cases of goiter with injections of 10 minims of Fowler's solution. He notes that inflammatory adhesions at the site of the punctures are frequent.

Hammond says that in the hypodermic use of Fowler's solution there is a decided tendency to the development of cellulitis and consequent abscess, as well as painful cutaneous inflammation. He recommends that a point should be chosen where the skin is loosely attached to the subjacent tissues. If the outer aspect of the arm near the insertion of the deltoid is selected, an abscess is the invariable sequence.

It will be seen that these writers speak of the irritating properties of Fowler's solution when injected beneath the skin. This has been attributed by some to a septic condition of the solution, and by others to the spirits of lavender used to color it. In a conversation with Dr. W. S. Haines, professor of chemistry in Rush Medical College, he suggested that, while septic matter might produce an abscess, and probably was frequently present if the solution was carelessly prepared, in the majority of instances the irritating properties of Fowler's solution, when injected into cellular tissue, was due to the varying amounts of arsenious acid contained in the preparation. As ordinarily prepared and sold in the shops, all of the arsenious acid is not converted into arsenite of potassium, and so could not fail to be irritating. He further suggested the use of the arseniate of sodium, a stable salt, readily soluble, and of definite composition, and kindly prepared a one per cent solution, and subsequently a five per cent solution, that were used extensively in the clinic for nervous diseases.

Dr. Haines recommends that the pure anhydrous salt be used; as ordinarily found in the shops, it may contain from four to twelve molecules of water of crystallization. If this be driven off, by heating to 300 degrees, the resulting salt has a definite composition. With the formula Na_2HAsO_4, a 1 to 100 solution of the salt contains 53 percentum of the arsenic found in Fowler's solution, so, approximately, the dose

* "Materia Medica and Therapeutics."
† Jahrbücher für Kinderheilkunde, 1887.
‡ Schmidt's Jahrbücher, ccx. p. 195.
§ Corr. Blt. für Sch. Aerzte.

of such solution should be about twice that of the liquor potassii arseniatis.

The results with the use of this solution were excellent. In one hundred and twenty-seven injections, with a dose varying from 6 minims of a one per cent solution to 15 minims of a five per cent, slight induration was produced six times; in one instance, with some induration, the skin was a little reddened and tender. In one case there was some ecchymosis, though this might have come from a little want of care in using the syringe. It may be stated that this induration was only slight; in no case did it call forth any complaint on the part of the patients, and in no instance was there anything approaching an abscess. That the slight irritation was not due to the salt was amply shown by the fact that the five per cent solution caused no more irritation than the one per cent; in fact, it was rather due to the quantity. When the syringe was filled (15 minims) with either strength some induration was caused, while a less quantity (5 to 10 minims) caused no change whatever.

The results of this treatment are shown by a few cases taken from records:

A. D., aged 14, female. Has had marked involuntary movements of all the extremities for the past four years. During that time she has never been wholly free from them, though there have been marked exacerbations each year. Puberty has been recently established. Diagnosis, chorea. She was immediately placed upon arsenic hypodermically, beginning with 5 minims of the five per cent solution, and increasing every second day until three weeks after beginning the treatment, when she was receiving 13 minims of the solution at each injection, with an arsenic equivalent of about 36 minims of Fowler's solution. At the ninth injection she was discharged cured.

S. McC., aged 13, female; diagnosis, chorea. This was one of recent chorea due to fright, with rheumatic or heart complications.

July 5—Treatment began by the administration of 7½ minims of Fowler's solution (by the mouth) thrice daily. On the 19th the patient reported that she was worse and suffered from peculiar sighing respirations that were very distressing. She was then given 10 minims of the one per cent solution; on the 22d, 15 minims, and on the 24th, 30 minims. At this time the painful respiration had ceased and the patient was greatly improved. The dose was increased rapidly until August 23—about one month after commencing treatment—when the patient was discharged cured. The last five injections in this case were equivalent to 30 minims of Fowler's solution.

H. H., a slight, anemic girl, aged 15; presented herself in June with a history of chorea extending back into early spring. She was placed upon Fowler's solution by the mouth, but at the end of a month, there being no improvement, it was changed to hypodermic injections of the arseniate. She was discharged at the end of a month perfectly restored. Twelve minims of the five per cent solution was the highest dose recorded in this case.

G. H., chorea of five years' standing in a pale, anemic girl of 13. The chorea had resisted all treatment and the mother had had the child at various clinics, but without result. She was immediately placed upon 5 minims of the five per cent solution, which was rapidly increased until in six weeks' time she had reached a dose of 15 minims, with an arsenic equivalent of about 42 minims of Fowler's solution. At the present time she is fully recovered and has gained six pounds in weight.

In this connection we desire to especially emphasize the tonic action of this kind of medication, which, we think, is amply attested by the improvement in weight and color of all our cases. This we hope to demonstrate more conclusively in the not distant future by enumerating the blood

corpuscles and estimating the hemoglobin.

The treatment has been employed thoroughly in two cases of paralysis agitans and in other forms of tremor, but without confirming the observations of Eulenberg as to its value in these conditions.

We cannot leave this part of our subject without calling attention to the case of a woman who presented herself at the clinic with enormous lymphadenoma of the side of the neck. After a few deep injections into the glandular mass, it began rapidly to diminish; when it has lessened one-half the patient ceased attending and further results could not be noted. This observation is thoroughly in accord with numerous writers, who have reported equally good results from the use of Fowler's solution in the various forms of glandular enlargement passing under the terms lymphoma, lymphadenoma and Hodgkin's disease. We are satisfied that the local application of arsenic would have been greatly extended in these cases had it not been for the irritating properties of Fowler's solution and the almost certain abscess which it causes in this kind of tissue.

The value of hypodermic injections of Fowler's solution in malignant tumors of the skin has been affirmed by Monckton,* Pick† and Lesser. ‡ Can we not look for an increased range of application in these cases, with a salt free from irritant properties, and consequent inflammation and abscess?

Before closing this article we desire to say an additional word regarding the solutions employed. When first made they were invariably aseptic, perfectly limpid, and would remain so indefinitely if tightly corked. After they were frequently opened a slight opalescence would develop, due probably to some micro-organism. The solutions, however, remained free from pathogenic germs, as when injected not the slightest irritation was produced. We desire here to refer to the kindness of Messrs. Parke, Davis & Co., who have prepared for us hypodermic tablets, one containing one-tenth and the other one-twentieth grain of the salt. These have proved very convenient in privat practice, though it will be apparent by a reference to our cases that the quantity in each tablet is much too small.

The action of arsenic given under the skin, if it have any virtue, must certainly be greater than when taken by the stomach. Thrown into the cellular tissue in the form of a feebly alkaline and readily soluble salt, it is at once absorbed by the blood and carried to all the tissues. Administered in this way it at once reaches the skin and nervous tissues without running the gauntlet of the liver. As might be inferred, its action in these cases would resemble that of the salts of mercury when given by inunction or hypodermically. The liver seems to have a strong selective action for certain metallic salts, and among these arsenic must be accorded the first rank. As its toxic effects are largely focused upon the liver and adjacent abdominal organs, is it not rational, then, to suppose that, if given by the mouth, it would pass the liver with difficulty and cause greater disturbance than if it were immediately distributed to all parts of the body by the general circulation?

* British Medical Journal.

† Medical Record.

‡ Centralbl. f. die Med. Wissensch.

Doctor Dubinsky.

By Mrs. C. D. Spivak.

It was a gloomy afternoon. The December sun was hidden under a thick cover of black clouds, and a heavy rain was monotonously beating against the window-pane. My desk presented a fair example of chaos; books lay open, in which I had searched in vain for enlightenment on my eclampsia case. The fireplace, with its flickering embers, was the only thing that spread a warm cheerfulness in the room.

Dizzy from loss of sleep, and exhausted from anxiety, I yielded to the desire of stretching my weary bones on the couch near the hearth. I closed my eyes and merged into a doze, but the woman with her dilated pupils and distorted face like an evil shadow kept hovering near me.

In this semi-conscious state I became suddenly aware of someone knocking at my door. "Is she dead?" I yelled, and jumped up. But Mr. Dubinsky, with his everlasting suspicious grin and melancholy countenance, was eyeing me from head to foot. I returned to my sofa, for I know Dubinsky will come in without an invitation, and it will take him some time before he makes up his mind to say what brought him to me. I was lying on the couch, staring at the ceiling and gaping for at least a quarter of an hour, while my guest, with his hat on, sat still as a statue. All at once he stirred, cleared his throat, and said slowly, as if he coined each word he uttered: "Could you let me have ten dollars for an indefinite time?" I at once handed him the sum he required, for I know well when Dubinsky asks for money he is sorely in need of it. He took the money, pulled his hat low on his forehead, and, mumbling a "Good-by" between his teeth, wanted to go. "You cannot go now; wait until the rain is over," said I. "He who is wet fears not the rain," he answered, in a curt Russian proverb. In order to detain him I said: "How many of you Russian fellows are to graduate from old Jeff this year?" "Five," said Dubinsky, with a grin.

"And how do they manage to bear the college expenses?" I put in again, to keep up the conversation. "Petrusha and Alexis work in Foster's shirt factory, Nikolka is a cigarmaker, Sasha is a druggist, and Bezsmertni is paying his way through college from the lodges to which he belongs." "Bezsmertni—" I delivered myself of the horrid name—"is not that the fellow who looks as if he walked around to save funeral expenses?" But Dubinsky did not seem to notice my joke, and continued:

"I have a lot to make up in my studies and my wife is ill of late; so I gave up my work entirely."

"I don't see how you poor devils manage to study and work for a living at the same time. It must be very hard," said I, with a yawn.

"Hard! I should think," said he, with another fearful grin; and, giving his hat a severe pull, said, "I must go," and left the room.

* * * * *

Dubinsky's wife was a Russian midwife. She had learned of medicine just enough to create in her a great love for that science and she longed to become a physician. This was ten years ago, while she yet lived in Russia. At the time when her ambition was at its height the Medical Institute for Women in St. Petersburg was closed. Her income from assisting the young into this world did not allow her to go to France or Switzerland, and she had to give up the idea of studying medicine—for a time, at least. At that time she met Dubinsky and fell in love with him. They soon married and it was understood between them that she was to take up the study of medicine as soon as their means would permit. After two years of married life she began to fear that her fondest dream would never be realized.

One day she received a letter from a schoolmate who migrated to the United States, in which her friend gave a glowing description of the country and the facilities offered there for a higher education, and also informed her that she had graduated from a medical college. Her hope was rekindled. She commenced to urge Dubinsky to leave Russia. Dubinsky loved her dearly, and her will was law to him. They soon sailed for the land of the free. Since they came to America, which was eight years ago, they had suffered

much. Two girls were born to them. Notwithstanding their wretched condition, the idea of studying medicine has still remained the beacon-light of her distant haven. However, the difficulties became more numerous and less surmountable as time went on, and the realization of her idea receded into the infinite. She grew sad and dispirited. One day, while she was brooding over her vanished ideals, a thought settled in her mind which brought the glow of her old enthusiasm back to her pale cheeks. "I cannot study medicine myself. Why should not Dubinsky take it up in my stead? He is able and energetic. I shall realize my dream through him. A day may come when I, at his side, will also embrace the beloved science."

Dubinsky was then 33 years old, and to become a schoolboy at such an age and under such material disadvantages was not an easy thing to do. But love made the course seem smooth, and he was soon as enthusiastic about the matter as herself. All obstacles were overcome at last, and he matriculated. What joy she experienced in watching Dubinsky every morning going to college, meeting him when he came home laden with knowledge, which he shared with her as much as time and circumstances permitted. "Another year and we will graduate," she used to say to Dubinsky. "When we settle for practice I will make for you all the chemical analyses, the microscopical work; in fact, will be your able assistant!"

As time wore on, however, she wore out under the yoke of physical labor, for she had been the sole bread-winner of the family. Her strength rapidly failed, and a grave disease consumed her. She kept her illness secret from her husband. She frequently consulted me in reference to her health, but forbade me to mention the fact to Dubinsky. I told her that she would have to undergo an operation, and warned her that she must not linger, as it might become hopeless; but she never consented. "After his examinations—not before," she used to say, sadly, but firmly.

* * * * *

Shortly after Dubinsky called for the money I was summoned to see his wife. "She is very ill and in bed," said Dubinsky's sister, taking breath at each word, being herself a sufferer from asthma.

The Dubinskys lived in a very dirty portion of Philadelphia, occupying three rooms in a tenement house. As I entered the first room I noticed the absence of the housewife. A lot of dirty dishes were piled on the sink, and on a table close to the door, among pieces of buttered bread, cups and saucers, lay medical books and bones belonging to the different parts of the human anatomy. It is obvious that this cozy nook served also as Dubinsky's study. On the floor were scattered pictures, building blocks and other toys. Sonya and Jenya ran up to me and said: "Doctor, mamma is in the flont loom." The next room, through which the children led me, was utterly dark, and the third room had one window, which admitted sufficient light to reveal the poverty that reigned within its wretched, damp walls. Here, on a tattered bed, lay Anna, Dubinsky's wife.

"What is the matter, girl?" said I, coming up to the bed. "Oh, doctor," said Anna, in a weak voice, "I am losing ground. Please sit down." And she showed me to a chair near the bed. She looked at me, and her large brown eyes were filled with tears. "Babies, go to aunty," and the two pretty little girls ran obediently out of the room. "Doctor, since I saw you last," she began, "I have felt very wretched; my temperature was up all the time. This frightened me greatly. What shall I do?" She was very much agitated, her face was flushed, and from her eyes dropped scalding tears. "Try to calm yourself, my friend. I need not tell you that excitement is harmful." "Doctor," she

resumed, regardless of what I said, "I had to go out to wash by the day last week. Dubinsky does not know about it. I kept on my feet until this morning. I see now that you were right; I will probably have to undergo a grave operation, and I fear the result. But," and she looked at me beseechingly, "there are only two weeks left for his final examinations. Dubinsky must, under no circumstances, be disturbed. Couldn't you strengthen me with some stimulants, so that I can be up and help him? Oh, dear doctor, pull me through these two short weeks," and, putting her head on the pillow, she wept bitterly.

Though accustomed to face misery in its various forms, I must confess that the suffering of this woman touched me to the core. It took all the self-mastery acquired during my twenty years of practice to hide the emotions which her words created. I did not know how to calm her. What I wanted to say seemed so little in comparison to her despair that I simply remained mute and let her give vent to her feelings. After the first paroxysm had passed away I made an effort, and said: "My dear woman, you must not play with your life; you are a mother of two children, and you cannot afford to sacrifice yourself in the way you do. I have to go now, but will return soon. In the meantime you must calm yourself and keep up courage." Her face was covered with red blotches. Her eyes were swollen, and her dusky hair lay like a black cloud around her forehead.

Anna had to be removed to the hospital. It was a heart-rending moment for me to see this indomitable spirit shake and quiver when she became aware of the reality; yet she never flinched. She at once consented, but entreated me to tell her husband that she needed simply rest and attention for a short time.

Two days before Dubinsky's commencement Anna was operated upon. Those two days of her illness stand out prominently from all the rest of the days of my life. I suffered for this patient more than for any other since I entered upon my career as a physician. I did not leave her bedside for an instant. I grew very much attached to Anna for her lofty intellect and noble soul. To save her life was my hope and my prayer. But, woe unto us brethren in Æsculapius, when, in spite of our most heroic treatment and most vigilant care, our patient sinks from bad to worse, and we, like all other mortals, only hope against hope.

Painful were those hours to me as I sat watching her delirious mind wander to the sunny fields of her childhood, to the brick cottage where she lived with her aged mother, or to the village blacksmith shop of which Dubinsky was the owner. Some recollections of happy moments must have been flitting through her mind, for her pallid face brightened up now and then with a smile. It must have seemed to her that she was again walking with Dubinsky arm-in-arm across the green Russian fields, plucking flowers on her way, and telling him of her cherished plans for the study of medicine. She muttered in her native tongue, of which the only words I understood were "medicine" and "doctor." She became quiet for a few minutes. Suddenly she called me and stretched out her emaciated hand, which I reverently took in mine. She seemed to look at me, yet her gaze was directed into the far distance, and she spoke in a hardly audible voice: "Doctor, I am dying." She paused and labored for breath. "Have you kept your promise not to tell Dubinsky of my hopeless condition?" I shook my head in assent, for I could not utter a syllable. "Ah, thank you, my dear friend," and she feebly pressed my hand. Turning her head to the clock on the table, she said: "It is 6 o'clock. His examinations are over. I hope he passed. When he comes I shall try to welcome him with a smile." She closed her eyes and remained quiet for a few moments.

When she opened them again two tears

freed themselves and rolled slowly down her deathly white cheeks. "Please hand me that bouquet of flowers," she said, and when I gave her the flowers she brightened up and touched them with her lifeless lips. "I want my daughters to give these flowers to their father to-morrow at the commencement."

At that moment a nurse came in and told me in a whisper that Dubinsky telephoned to inform his wife that he passed successfully his examinations, and asked whether he could come to see her. I communicated this pleasant news to Anna. Her noble soul at that moment shone in all its sublimity in her eyes, and in a few moments left its mortal clay, while she muttered: "D-o-c-t-o-r D-u-b-i-n-s-k-y!"—Medical Libraries.

The Illinois State Board of Health is preparing to enter on a crusade against the "Independent Medical College," the "Western University" and other diploma-selling institutions. The new law, which goes into effect July 1, will make a comparatively easy matter of what has heretofore been almost an impossibility. It is certainly to be hoped that this traffic, which is a disgrace, not alone to Chicago, but to the whole country, may be stopped for all time. —Jour. A. M. A.

Breathing.

Enough cannot be said of full, deep breathing. It is no hobby or wild notion, but if you would prove its benefits, practice it daily, and you will increase the circulation, purify the blood, and send it rich and hot to warm the feet, make ruby lips and plant roses on the cheeks. It will aid your digestion and give you a clean, sweet breath, promote sleep, quiet the nervous system, strengthen the throat and vocal organs and increase the chest capacity. It will also cure your asthma, catarrh and bronchitis and prevent lung trouble.

THE MEDICAL LIBRARY.

Mr. W. B. Saunders of 925 Walnut street, Philadelphia, is one of the very few medical publishers who can be relied upon to furnish the medical profession a literature which is always reliable and always up to date. His authors are only the best and most competent and the mechanical part of the work he will guarantee. He has in press now the following named volumes, all of which will be ready by September 1:

The International Text-Book.

will present a complete treatise on the theory and practice of surgery in its most advanced aspects. There is a real need among practitioners and advanced students for a work on surgery, encyclopedic in scope, yet so condensed in style and arrangement that the matter usually diffused through four or five volumes shall be given in one-half the space and at a correspondingly moderate cost.

Pelvic Inflammations

In this book Dr. Pryor directs the attention of the general practitioner and specialist to a surgical treatment of the infectious pelvic diseases of women. The subject is a most important one, insomuch as inflammatory lesions constitute the majority of all pelvic diseases.

Heisler's Embryology.

By Dr. J. C. Heisler, a book of about 325 pages, handsomely illustrated.

Nose and Throat.

By D. Braden Kyle, Philadelphia. The special features of Dr. Kyle's book are the logical classification of the diseases, the modern pathology, illustrated with new and

original cuts, and the extended consideration given to details of treatment. It will be the most modern book on the subject.

Diseases of the Eye.

By Dr. Edw. Jackson, will be a large volume of over 500 pages, with full illustrations, about 175 of them from the author's drawings.

These books are each and all by men whose teaching experience guarantees their ability as authors and their title to be considered authority.

CHICAGO CLINICAL SCHOOL.

The following operations were performed in the West Side Hospital, during the month of June, the students in attenddance at the Chicago Clinical School being present. Compiled by Senior Interne Dr. Bebb:

1 Psoas Abscess—Aspiration and Injection.
1 Sarcoma of Eye—Cauterization.
1 Sarcoma of Inferior Maxilla.
1 Tubercular Joint—Aspiration and Injection.
1 Removal of Needle from Hip.
4 Hemorrhoids—Ligation.
1 Hemorrhoids—Clamp and Cautery.
5 Trachelorrhaphy.
2 Mastoid Operation.
1 Ischio-rectal Abscess.
2 Anal Fistula.
1 Ectopic Gestation.
2 Double Ovariotomy.
3 Single Ovariotomy.
2 Varicocele.
1 Bursa—Aspiration and Injection.
1 Tubercular Kidney—Drainage.
3 Perineorraphy.
6 Curettement.
6 Appendectomy.
1 Double Herniotomy.
1 Suprapubic Cystotomy.
1 Fracture of Left Malar Bone.
2 Scalp Wound.
3 Deviated Septum.
9 Adenoids.
1 Fracture of Palate.
1 Comminuted Fracture of Forearm.
1 Fracture of Base of Skull.
1 Cyst of Neck.
1 Lupus—Dissection and Graft.
1 Axillary Abscess.
5 Tonsillectomy.
3 Nasal Exostosis.
2 Tubercular Glands of Neck.
3 Enucleation of Eye—Non-malignant.
1 Carcinoma of Tube.
1 Osteo-myelitis.
1 Stricture of Urethra—Resection.
1 Carcinoma of Gall Bladder.
2 Pelvic Abscess.
1 Compound Comminuted Fracture of Bones of Lower Leg.
1 Carcinoma of Uterus.
1 Iridectomy.
1 Choroidectomy.
1 Lipoma of Shoulder.
1 Sarcoma of Kidney—Nephrectomy.
1 Advancement Rectus Muscle.
2 Carcinoma of Breast.
1 Recto-vaginal Fistula.

Dr. D. Bryson Delavan, the well-known laryngologist of New York, was recently married to a St. Louis lady, the daughter of a prominent citizen of that village.

Gen. Leonard Wood, whose medical acquirements and executive ability in sanitation have won for him much regard from the War Department as military governor of Santiago Province, has been granted a leave of absence. His intention is to bring his family back to the United States and then to return to his post. The residence of his family is to be somewhere on Long Island, N. Y.—J. A. M. A.

The Chicago Clinic.

A HIGH-GRADE MONTHLY PERIODICAL DEVOTED TO THE MEDICAL PROFESSION.

J. HOMER COULTER, M. D., Editor.

Brief news items, reports and papers of interest from any section of the country respectfully solicited.

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All matter pertaining to the editorial department should be addressed to THE CHICAGO CLINIC, 819 West Harrison St., Chicago.

EDITORIAL AND BUSINESS OFFICES:
819 W. Harrison St., Chicago.

Any physician who will remit us $2.00 will receive for one year the Chicago Clinic and the "American Medical Quarterly." If any physician does not find each issue of either publication worth more than the cost of the yearly subscription, the publishers offer to refund the money. The publishers of the latter claim that no medical periodical, in this country or Europe, compares with it in the character and value of the matter it contains. Certainly no medical journal issued recently has approached the scientific and practical value of this new quarterly. The Chicago Clinic will stand also purely on its merits, either as an advertising medium or a practical medical journal.

COCAINE ADDICTION.

Another case in this city is reported through the daily press of a young man who became a veritable cocaine fiend simply from the use of one of the numerous "catarrh snuffs" on the market.

What can be said of him who knowingly, yes, maliciously, compounds a remedy and places it on the market containing such proportions of cocaine? Knowing, as he must, that the drug has no real curative effect, and that the relief obtained can be only temporary, and as well that the after results, aside from the formation of a habit, cannot be otherwise than injurious to the membranes, and directly antagonistic to a possible cure subsequently by any legitimate and professionally honorable means.

We are not relieving ourselves, at this time, of a screed directed against patent remedies. Such is not the inspiration of these words. But that this particular type of remedy is a most dangerous one, and does deserve our most eloquent and most persistent denunciation, there can be no doubt.

We have more respect for the proprietor of the lowest "grog-shop" than for the manufacturers of these so-called "catarrh cures." The former has at least the credit of telling the world, by the brazen inscription at his door that they can obtain destruction within; while the latter, with serpent surreptitiousness, secures its victim by the flattery of hoped-for relief. Can anything more despicable be imagined than that a human being, endowed with a certain business capacity, should allow his sordid desire for gain to so far blunt or completely obtund all his sense of right, justice, happiness, honor, sympathy and propriety, that he would suborn all his energies and efforts to the advancement and sale of an article so certainly terrible in its results?

Nor can we entirely excuse from all culpability the druggist who retails the article in question. He is not ignorant of its nature or composition. Though doubtless they ease their conscience by the claim that they do not know the exact formula.

We must, as physicians, lend our efforts to creating a healthier sentiment, even among the druggists. This is an old, old song, I know, and I imagine some of our readers will wish for something fresher. But I do assure you no subject can be more important, or imperative, because, while fraught with dreadful, fearful, awful possibilities, it is yet in its infancy, and can therefore be more easily and effectually throttled. It is a question how much the good exceeds the evil opium and morphine have done. We hope it may never come to be a question in the case of cocaine.

A. R. EDWARDS, A. M., M. D.

Our frontispiece this month is of Dr. Arthur Robin Edwards, who has recently been elected Professor of Internal Medicine in the Chicago Clinical School.

Prof. Edwards is recognized as one of the ablest and most eminent of the medical consultants and teachers of Chicago.

He has won that reputation by years of careful, painstaking, scientific work at the bedside, at the autopsy and in the pathological laboratory .

Dr. Edwards is also Professor of Principles and Practice of Medicine and Clinical Medicine in the Northwestern University Medical School and in the Woman's Medical School.

He is attending physician to Cook County Hospital and to St. Luke's Hospital.

The amount of clinical material which he has at his disposal makes him peculiarly valuable to our school.

The special feature which he will make prominent during the coming year will be his Thursday morning clinic in the amphitheater of Cook County Hospital.

The addition of Prof. Edwards to the faculty of the Chicago Clinical School will materially strengthen the department of internal medicine. C. D.

MEDICAL EDUCATION AND THE CHICAGO HEALTH BOARD.

The recent move on the part of Commissioner Reynolds to give practical instruction to a number of young men in sanitary science, as well as public hygiene, is certainly a most commendable one in every sense.

True, such a plan has previously been acted upon to a certain extent, but only experimentally as compared to the present methods and intentions. Only graduates in medicine from reputable schools or senior undergraduates in such will be permitted to take these courses.

No fees will be charged on any account. The term of instruction will comprise eight weeks' work in the laboratories under the immediate direction of a thoroughly competent head of the department. The courses will be in bacteriology, bacteriological diagnosis, chemical analysis of foods, water, ice, etc., especial attention being devoted to the bacteriological and chemical examination of milk.

Undergraduates who have passed the sophomore year will be required to work for a term of only four weeks, attending three hours daily and doing such work as may be assigned to them in preparing culture media, putting up culture outfits, incubating, sterilizing, taking care of instruments, fitting and constructing apparatus, etc., in short, doing the elementary practical work in bacteriology and sanitary chemistry and assisting their teachers. At the close of the term the pupil will receive a provisional certifi-

cate entitling him to admission to the senior course without further examination.

In addition, there are to be a special course in sanitary inspection, lasting four weeks, during the first half of which the pupil will accompany a sanitary inspector in his daily work, and during the second half of which, if he has shown sufficient ability, he will take assignments, make inspections and reports, and in fact act as a sanitary inspector on his own account; a two weeks' course in vital statistics, embracing the nomenclature and classification of diseases for statistical purposes, the computation and graphical representation of statistical results, and the laws and ordinances relating to the disposal of the dead; and a course in the department's methods of dealing with infectious diseases, including notification requirements, the isolation of patients, prophylaxis, vaccination, the use of diphtheria antitoxin, formaldehyde disinfection, etc.

It will be readily seen that such a course is one of the greatest value and importance, and Dr. Reynolds deserves the most unswerving support of the people, and more particularly of the profession. Indeed, there are a certain percentage of Chicago physicians who maintain very creditable surroundings from good practices who would do well to improve this opportunity and get some valuable information.

THE PROFESSIONAL NURSE.

Probably the most sensible phase of the "New Woman Movement" is the professional nurse. At first the profession hailed her with delight, and even yet is delighted with her presence.

For several years she has relieved the busy practitioner of a part of the worry consequent upon the treatment of his very sick patients.

So long as she (the nurse) is content to carry out the instructions of the physician, and attend faithfully the needs of her charge, she is a most faithful and helpful attendant upon the sick.

There has grown up recently a desire on her part, aided also by the overzealous teacher in medicine, to learn anatomy, physiology, chemistry and the other branches of medicine, in addition to her knowledge of nursing.

This, no doubt, is but natural, as she is constantly thrown into the society of the surgeon or physician, and is present at all the operations and many consultations; and she must needs be intelligent and bright and capable to render assistance when needed. If this additional knowledge can be added to her course of instruction without making her critical in her judgment, well and good. If, however, she becomes opinionated and distrustful of her associate (the physician), then she had better forget her knowledge of these branches and be just a good, plain, faithful trained nurse.

It is said that a specialist should become a general practitioner before taking up his specialty. Yet should he, after leaving the field of general medicine, take up the cudgel against those in the field of general medicine, he would soon be without a clientele. The fate of the professional nurse will be the same.

All hail to the professional nurse; and may she always remain so.

THE ILLINOIS SOCIETY FOR THE PREVENTION OF TUBERCULOSIS.

About fifty prominent physicians of Chicago, along with a number of interested laymen, organized the above-named society in the rooms of the Chicago Medical Society, at a meeting held on June 20.

The same was called to order by Dr. Arthur D. Bevan, who made some general remarks touching the known cause and presumable origin of the disease, and argued that inasmuch as we are also reasonably certain that it is very frequently communicated through some food product, it would therefore seem that it was certainly within the bounds of the possible for the medical profession, in conjunction with public officials and the properly inclined public sentiment, to completely stamp out the awful and almost pestilential disease.

Dr. Arthur Reynolds read the report of the committee appointed last December, which was as follows:

"The undersigned, members of the general committee on tuberculosis of the Chicago Medical Society, appointed for the purpose of formulating plans for the organization of a society for the prevention of tuberculosis, beg to submit the following report and recommendations:

" 'The formation of such a society, chartered by the state of Illinois under the act concerning corporations, is urgently recommended, and the time is opportune by reason of the universal popular interest in the disease. The society should be framed with reference to the popular interest. Hence its membership should consist, not only of medical men, but of the laity generally, and of both men and women.

" 'While it requires but three individuals to incorporate, its board of trustees should be large enough to insure a full representation of all desirable interests. and since it is proposed to extend its operation throughout the state, provision should be made for trustees from localities outside of Chicago. Their number may be fixed by the by-laws and need be specified in the certificate of incorporation.' "

On motion the report of the committee was received and the committee discharged.

Hon. Carter H. Harrison, mayor of Chicago, took the chair, and said the magnitude of the work to be undertaken is shown by the fact that one-tenth of all deaths are due to tuberculosis, and, that being true, any effort made by the physicians of Chicago or anywhere else in the nation to remove the causes of this dreadful disease and to discover means of exterminating it would be gladly welcomed and the subject of congratulation by citizens.

Dr. J. A. Robison was elected secretary pro tem.

Then followed a general discussion by Mr. Jesse Cox, Dr. Marillet, Dr. Alexander, Dr. W. A. Evans and others.

A constitution and by-laws was adopted and officers elected in accordance therewith.

Honorary president, Dr. N. S. Davis, Sr.; president, John MacLaren; vice-president, Dr. Wm. A. Evans; secretary, Dr. John A. Robison; treasurer, E. G. Keith, Esq.; counsel, John P. Wilson, Esq.; trustees, Mayor Harrison, Otto Young, Arthur Dixon, D. B. Scully, Dr. J. B. Murphy, Dr. N. S. Davis, Dr. A. R. Edwards, Dr. Frank Billings, Dr. Truman Miller.

The efforts of the society will be prin-

cipally legislative,, so it seems, and will be directed toward urging the legislature to appropriate adequate funds for the State Board of Live Stock Commissioners and to increase the executive force of such commission, as well as to augment its powers and duties; and what to our minds is by far the most important of the functions and duties of this society, is to recommend some method by which the present system of milk inspection may be improved, so that the sale of tuberculous milk may be prevented in the city.

The board of trustees will meet quarterly according to reports, and the society will meet as frequently as once yearly if deemed expedient by the board of trustees. This, we believe, is the weak point of the organization, as a quarterly meeting of the organization is certainly desirable, if a persistent and consistent and united effort on the part of those interested is desired.

C.

DO YOU ATTEND MEDICAL SOCIETIES?

Do you attend medical societies? was asked of a physician the other day. He answered, "No, I am too busy a man to go."

Of the four thousand practitioners of medicine in Iowa, not more than one-fifth of them attend the State Medical Society.

Probably another fifth attend local or district societies once or twice a year. If we carefully study the men who do attend our medical meetings, and take an active part in the work of the sessions, we will notice that they are the busiest men in the profession, and, in addition, they represent the brightest physicians in the state.

A somewhat larger per cent of Nebraska physicians attend their society meetings. This is largely owing to the fact that as a class they are younger men in the profession, and more up to date in their notions of what constitutes "keeping in touch" with the advance of medical knowledge. No medical man can afford to be absent from these meetings on the ground that he has not the time, or that he does not learn anything while in attendance.

The medical man who graduated ten or more years ago, who located and has been too busy to attend medical societies, is the man who is ten or more years behind in the advance of medical thought. Not only this, he represents the class of men who are of the opinion that "in their locality we do not have any cases of appendicitis, and such as we have are easily cured by medicine alone." "Yes, we have cases of inflammation of the bowels, and occasionally a case of peritonitis, but no appendicitis that needs an operation by you surgeons."

Time alone will be required to change such a condition of lethargy in the ranks of our profession. The younger men who are being graduated at the "up-to-date schools of medicine" will fill the places gradually of these drones in the profession; then, and not until then, will bright men come up out of the villages from all over our states and take their places with others, now in the first rank.

Let us suggest, as a starter, you go to the coming meeting of the Mississippi Valley Society, in Chicago, as announced elsewhere in this issue. You will receive a new incentive and impulse in this line which will both surprise you and do you good. You will meet the brightest lights of the profession and will find their hand so social, generous, sympathetic and fraternal that even to have

met them will do you good. You will come home feeling that your life is not limited by the narrow compass which marks the miles you travel in the performance of professional duty.

THE MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

This progressive society will hold its twenty-fifth annual meeting under the presidency of Dr. Duncan Eve of Nashville, on October 3, 4, 5 and 6, in the city of Chicago. The committee of arrangements confidently anticipates that this meeting will be a prominent feature in the history of the association, and advances the following reasons for this opinion:

1. The autumn fete, to be known as the American Festival, will be held from September 25 to October 9, at which time the President and his cabinet will be the guests of the city during the laying of the corner-stone of the new Federal building.

2. The railroad fare from all points to Chicago will be a flat one-fare rate for the round trip.

3. The post-graduate schools of the city propose to arrange for a series of clinics to be given during the festival period by the most eminent teachers in all the medical faculties of this great center, thus affording an extraordinary attraction.

4. Aside from the features mentioned above, there has been for several years past a desire on the part of the members to hold a meeting in Chicago. The accessibility of this city, and its splendid hotel facilities, make it an ideal convention place, and consequently the committee expect more than double the usual attendance at this meeting.

Titles of papers should be sent in at once to the secretary, Dr. Henry E. Tuley, Louisville, Ky.

The exhibit hall will be located on the seventeenth floor of the Masonic Temple. Applications for space should be sent to Dr. J. Homer Coulter, 1010 Columbus Memorial building, Chicago.

PRESCRIPTION RECORD.

Do you keep a record of your prescriptions? If you do, you certainly have had reason to appreciate the advantage it frequently affords; and if you do not do so, two months' experience will show you that the slight trouble it is at the time is far more than equaled by the satisfaction in the positive knowledge of exactly what you gave previously. A piece of carbon impression paper, the size of your blank, is all that is necessary. Then, with the precaution to always write the name of your patient, and the date, on the prescription, you have a most valuable record for preservation.

Prof. Dr. Gustav Braun, director of the physical institute of the University of Strasburg, who is held in high repute among German scientists, is said to have outdone Sig. Marconi in the field of wireless telegraphy. Dr. Braun has worked on quite a different principle to that underlying the Marconi inventions, it is understood, but his work is based on the researches of Herts and Schewellen. Careful and extensive experiments just made seem to prove beyond question that his system is surer than Marconi's and can be employed over greater distances. Dr. Braun has already made several startling inventions as a result of his work on other physical problems.

ABSTRACT.

The Cheerful Doctor.

"A man he seems of cheerful yesterdays
And confident to-morrows."
—Wordsworth.

About a year ago we ventured to give our readers an editorial on The Doctor's Smile. Dr. Minor, in the Cincinnati Lancet-Clinic, has given us a very readable and practical editorial along the same lines.

There is no medicine for the sick-room so helpful as cheerfulness; in its presence the clouds of despondency are dissipated and the bright sunlight of hope enters. The doctor should ever exhibit cheerfulness in action, aspect and speech, light, airy movement, a twinkling eye, a ripple of universal laughter running the scale of spoken words, for language, after all, is but sound that conveys the mental impressions of one being to another. Cheerfulness is like the dew to the rose; it dispels all the perfume while it refreshes the flowers in the garden of human nature. Some persons have the good fortune to be born with cheerful dispositions; among others it is an acquired gift, lacking the sincerity of spontaneity, yet answers an admirable purpose withal. Cheerfulness is always found associated with gentle hands and an unselfish heart; it is peculiarly the charm of many women, rendering the most homely of that sex attractive. The most successful family physicians we have ever known were the cheerful ones. Rapid success, it is true, is often secured, at first, by the very grave and reverend seignors of the profession, but such success is never lasting, and is only maintained by men of indefatigable energy and ability, who continually work up new clients to replace those lost through unfortunate mannerism. What old family in our midst will ever forget the merry-eyed Foster, the sympathetic Carson, the ever-cheering Dandridge? Their entrance to the sick-room always caused the most weary and most pain-racked patient to look up with smiling expectation, for they always bore in their hands the beacon torch that lighted up the darkest shadows with rays of glorious hope.

A philosopher once remarked that "the gravest bird was an owl, the gravest fish an oyster, the gravest beast an ass, the gravest man a fool." When cheerfulness enters the sick-room the patient gathers scattered nerves together, the heavy heart grows lighter, the pulse quickens with expectation of relief from suffering, and the flower of courage that drooped like the faded lily glimmers in beauty again like the night-blooming cereus under the silvery sheen of an August moon.

Cheerfulness in a doctor begets, too, confidence in the patient, and has not the immortal Galen declared "confidence and hope to be more good than physic?"

The cheerful physician, in securing the confidence of his client, also becomes to a large extent a father confessor, and in this way often reaches the secret of some heart-laden passion that feeds the foul disease. There is often as much of a comfort and cure in wise counsel as there is in an opiate that lulls conscience to sleep, and while it benumbs pain fails to act as a permanent remedy. The best and wisest family physician we have ever known belonged to the father confessor class.

Imagination, consciously or unconsciously, plays a large role in the healing art, and imagination can never be induced in the patient except by the cheerful suggestor; an odd fancy becomes a placebo, an original remark a veritable specific. The grave, mournful doctor, with the undertaker-like aspect, is ever offensive to the imagination of the timid suffering; there is a groan in his eye, a cankering moan sits on his brow; there is more lamentation than that of Jeremiah in his unsympa-

thetic voice. Such a man scares his clients to death. Seneca noted the impression of sadness on the sick, and remarks: "Or if there be any of such party at whose presence the patient is not well pleased, he must be removed; gentle speeches and fair means must first be tried, no harsh language used, or even uncomfortable words."

Yes, a troubled soul often lurks behind a malady, a soul longing for comfort and advice, like the headache of Charmades, that not even Socrates could cure until the troubled mind of his patient was eased, for is it not known to every wise physician that mind and body must ever be cured together?

Cheerfulness is the philosopher's stone of the sick-room; it converts the clay of despondency into golden happiness. Cheerfulness, with firmness, tenderness and self-abnegation, throws a halo of holiness around the couch of suffering; it is the star whose refulgence is most brilliant in the darkest hour, and points out the haven of sweetest dreams when an all-exhausted nature seeks solace in deepest repose.

Cheerfulness is the silken cord that connects suffering to sympathy.

The young graduate, just entering the practice of medicine, if not permeated by the gentle sentiment of which we speak, had best go at once into its cultivation if he desires to be successful. A doctor without cheerfulness is a captain without a compass, who strives to navigate without rudder or chart, and will inevitably lose many of the precious lives that confide themselves to his judgment and care. Be cheerful, then, my young doctor, and in the end find that you have won "golden opinions from all sorts of people."

A Solution of Suprarenal Extract.

Dr. W. D. Lederman, in the April "Laryngoscope," gives a simple method of making a serviceable solution of the desiccated extract of the suprarenal gland of the sheep for use in nasal or laryngeal operations. To overcome the tendency to rapid decomposition, which is so great a disadvantage in watery solutions of the suprarenal extract, the doctor adds 25 per cent of glycerine. In this strength the hemostatic properties of the glandular extract are preserved, while the solution keeps clear for some time. His method of preparing the extract is as follows:

"About (ten) 10 grains of the gland (Armour's) is employed to the drachm of a twenty-five (25) per cent glycerine watery solution. A half or an ounce of this mixture is placed in a wide-mouthed bottle, and well shaken. It is then allowed to stand in the room at the ordinary temperature (68 degrees F.) for about forty-eight or fifty-two hours. During this time the bottle is occasionaly shaken. The mixture is then permitted to filter through the ordinary filter paper into a clean bottle. We will then have a slight amber-colored solution, which is ready for use. It is advisable to employ a small quantity of the 'extract solution' at each sitting. In this manner the remainder of the solution, if placed in a cool atmosphere, will keep clear for some time." —Rev. of Rev.

Nasal Stenosis; Its Effect on the Ear.

Dr. Randall, in an article in the "Philadelphia Polyclinic," calls attention to the disastrous effect of nasal stenosis on the ear. There may be much discomfort and impaired hearing without either the occurrence of any congestion or abnormality of the drumhead or the obstruction of the tube-mouths by secretion or audition. The tube may be easily open to Valsalva or Politz inflation, but even after the use of these agents the discomfort is quick to return. The aural symptoms are due to an increase of the air pressure on the exterior of the drumhead, and a corresponding rarefaction on its interior surface. This is brought about by a continual performance of Toyn-

bee's experiment, i. e., it has the same effect upon the Eustachian tube as does swallowing when the nostrils are closed by the fingers. It is the exact opposite of Valsalva's experiment, and results in emptying the tympanum of much of its contained air. Thus, whenever the nose is closed entirely, from any cause, each act of swallowing produces a partial vacuum in the tympanum, followed by retraction of the drum membrane and uncomfortable sensation of having the ears "stopped up." The sniffing sensation so commonly seen in acute coryza is another fruitful cause of the same condition. The writer says that while the practical indications for treatment are rather obvious, the use of cocaine, which is too likely to be relied upon, may prove unsatisfactory because of the secondary relaxation of the vessels following its use. He suggests the sponging of the nasal cavity with some solution, such as that of menthol and camphor, and insufflation of a small amount of calomel over the naso-mucal surface. This treatment he has found very satisfactory.

Acute Otitis Media and La Grippe.

Dr. S. W. Smith, in the "Medical Age," reviews again this most important condition in such a plain manner that we are impelled to abstract freely from his article, as follows:

The ordinary history of deafness from this cause is that the victim of otorrhea, suffering for years, not only with the loss of hearing, but with a profuse and offensive discharge from the ear, will give a shocking information that the physician who attended him at the time of his first earache, and subsequently when a profuse and irritating discharge had set in, said, "Do nothing," or "Syringe the ear with soap and water." So does the average physician dismiss the case, without any knowledge whatever of the pathological lesion which has taken place, entailing upon the sufferer, in many cases, lifelong disease, where a judicious and timely interference would have been followed by the happiest results.

Prominent among the earliest and subjective symptoms of this trouble is a deep-seated pain, lancinating or throbbing in character, synchronous with the pulsation. Pain is increased by talking, sneezing, blowing the nose, deglutition, or any sudden expiratory act through the nostrils, etc. Walking about the room seems to give relief, and the recumbent position increases the pain. A tickling and itching sensation is experienced at the pharyngeal orifice of the Eustachian tube, extending along its course to the middle ear, with dullness of hearing and tinnitus aurium in the affected ear. The pain, at first only referable to the ear, after a few hours may, and frequently does, extend to the eye, temporal region, and forehead, along the side of the head to the occipital region, over the mastoid process, and down the neck. The pain now becomes intense; the pulse is accelerated; the tongue coated, with red edges. There is loss of appetite and rapid rise of temperature (101 to 103 degrees), vertigo and delirium. What seemed a favorable termination of la grippe now assumes a serious process of inflammation.

If early in the disease the drumhead be examined with a conical ear speculum and reflected light, it will be seen to have lost its grayish hue and bright triangular spot, and red lines appear along the handle of the malleus; later on the drumhead is no longer concave from an external view, but is convex and bulging out into the external meatus. If the disease is to terminate favorably, the occlusion of the Eustachian tube will give way and the exudative material of the tympanic cavity pass through it into the throat, or it may be that a rupture of the drumhead takes place and the contents of the middle ear pass out through the external canal. However, not infrequently new connective tissue bands have been formed, connecting one or more of the ossicles to the walls of the tympanum.

and by this seemingly favorable termination of the disease a permanent impairment of hearing may be established. If paracentesis be performed early in the disease, and the contents of the tympanum allowed to flow out, followed by the application of two or three leeches to the base of the tragus and over the mastoid process, the disease may be cut short, and resolution take place without leaving behind one trace of the inflammatory process.

Usually the attending physician fails to appreciate the great importance of a judicious and timely interference with the course of the disease, and about 75 per cent of patients so affected lose their hearing to a greater or less extent. If the disease becomes chronic, the condition is not only extremely disagreeable, but dangerous to the life of the sufferer. Especially is this the case with a patient of a strumous diathesis or one tainted with syphilis. If the disease extends into the mastoid cells, which frequently occurs, we may have, months after the acute attack, a periostitis over the mastoid process, giving rise to the most distressing and painful symptoms, resulting in a mastoid abscess. Or the ulcerative process may attack the bony structure of the ear and establish caries of the part, which may extend to the diploe of the petrous portion of the temporal bone and give rise to pachymeningitis or pyemia. Thrombosis frequently results, and when the diploe of the bone is the seat of ulceration, emboli may pass through the petrosal and lateral sinuses into the jugular vein, pass through the right heart, and thus give rise to metastatic abscess of the lung. The internal carotid may be attacked by the ulcerative process, followed by perforation and death.

In periostitis of the osseous portion of the external auditory canal, the points in differential diagnosis are more difficult to make out by the subjective symptoms. However, the following points may lead to a correct diagnosis: In periostitis there is usually an itching or tingling sensation experienced along the wall of the osseous portion of the external auditory canal. In otitis media, if these symptoms are present, they are referable to the pharyngeal orifice of the Eustachian tube and travel along the tube to the middle ear. In periostitis the pain gradually increases, while in otitis media the pain is suddenly developed; in periostitis deafness and tinnitus aurium, if they are present, always follow the pain, while in otitis media the deafness and tinnitus aurium always accompany the pain. Again, the speculum will aid in drawing the line between these two diseases, for in periostitis the membranum tympani is rarely the seat of any special change, while in otitis media the membranum tympani is always changed in its appearance. If any doubt still exists, explore the walls of the external auditory canal by means of a blunt-pointed probe and make gentle pressure in every portion of the canal; when the point of periostitis is reached extreme pain is produced. In otitis media there is rarely any unusual tenderness in the external auditory canal.

Irrigation of the Bowel in Summer Diarrhea.

In obstinate cases, two individual things should be done for the relief of the child, namely, the use of irrigation of the large bowel by plain water, normal saline solution, or water containing a small amount of boracic acid, and, second, and even more important, the use of milk should be stopped for a period of twenty-four or thirty-six hours, and it should be supplanted by the use of beef juice and water to allay thirst, to provide albuminoids, and yet at the same time to arrest the fermentation processes which are going on in the alimentary canal, and which are represented by the curds of milk which are found undigested in the stools which are passed.

Ordinarily about one quart of liquid may be used, and if there seems to be any tendency to its retention, an escape tube can be inserted alongside of the entrance tube. By

this means the bowel is cleansed, the temperature is lowered, the blood is sent from the congested colon to the peripheral portions of the body, and great benefit results to the child, for often a peristaltic wave is set up which cleanses the bowel even above that portion of it which is reached by the injection.

Dr. Hubbard points out that seven out of ten babies which received this method of treatment had no rise of temperature the next morning, and of fifty-two other cases not so irrigated, 59 per cent had a temperature. So far as we know there are no contarindications to the employment of this method of treatment, provided a fountain syringe is held sufficiently low to produce a gentle flow of liquid into the bowel, and not high enough to produce too much hydrostatic pressure, which, if it is slightly excessive, may cause griping, and if it is very excessive may cause damage.—Therap. Gaz.

Chronic Malarial Infection and its Treatment.

Dr. W. H. Thompson of the Roosevelt Hospital has a lengthy and comprehensive article on the above subject, which we appropriate in part, from the "New York Medical Journal" of July 15. We regret that space precludes its reproduction in full; we give only that portion relating to treatment:

The curability of a malarial infection varies so much, according to the person infected, that in no other disease is the futility so often exemplified of mere dosing with drugs, irrespective of the individual's constitution. A large number of persons, as a regiment of soldiers, for example, are infected under identical conditions as to time and to locality. The majority of them never reach the stage of illness from it, while the rest are invalided in the most varying degrees, from a few days to a whole year. Hence, spontaneous cure, without any treatment, must be predicted as not uncommon, and due to individual powers of resistance. Chronic malarial infection, therefore, implies a personal susceptibility, original or acquired, which calls for particular management. During the months of September and October last I had a hundred soldiers with Cuban malarial poisoning admitted to my wards at the Roosevelt Hospital, and I found that quinine had been given to every one of them in doses varying from fifteen to ninety grains daily for periods varying from four weeks to three months, but without true remedial effect. the blood in every instance showing the plasmodium apparently indifferent to the presence of this drug, though many of the patients were quite cinchonized by it. This clinical fact, however, by no means shows that quinine is not the medicine for malarial disease, for, on the contrary, it is the first remedy to be given for this disease. With quinine employed in the right way, and with proper adjuvants, every case of malarial disease ought to be cured, however chronic or obstinate. Owing to the practical interest of the subject I would take the liberty in closing to give a brief sketch of the course of treatment which I should recommend. First, begin with a mercurial laxative, given toward the close of the febrile paroxysm and made to act within six hours. Mercurial purges are the best agents against the intestinal self-infection which occurs in every fever, though notably in scarlatina and in typhoid fever, but just as certainly in ague as well. Moreover, a special reason for their use in this fever is that quinine is an unstable alkaloid, readily decomposed by too long a sojourn in the alimentary canal before absorption. Strychnine heated to 140 degrees F., though its chemical constitution seems unaltered by this degree of heat, yet is rendered wholly inert, and that the portal congestion characteristic of malarial fever much delays both the absorption and the action of quinine is shown by the fact that quinine given hypodermically produces cinchonism in a

healthy person in one-third the dose which is needed to produce that effect when given by the mouth; while in conditions of hepatic congestion, however produced, the difference is still more marked.

Having thus promoted the absorption of the drug by the preliminary purging, the time for the administration of the quinine is the next important indication. Among the hundred soldiers mentioned, while the rest had been relieved by the treatment to be referred to presently, there remained two who continued to show a daily febrile rise for some fourteen days. As often occurs with infection by the estivo-autumnal parasite, it was difficult to determine the exact time of the onset of the paroxysms in these two cases, but a careful inspection of the temperature chart finally led to altering the time for the administration of the quinine, the dose remaining the same as before, whereupon the fever was speedily broken after the time change. My own observation on this point coincides with that of many others, that the entrance of the fullest doses of quinine into the circulation should coincide as nearly as possible with the time of sporulation in the life cycle of the parasite—that is, from one to two hours before the time for the chill—because the more adult forms seem to be less susceptible to the drug. Were it not that large single doses of quinine are prone to irritate the stomach and thus delay absorption, particularly when gastritis due to hepatic congestion is already present, the appropriate dose might be given at once. But for the reason stated I prefer to prescribe its administration in three equal doses, an hour apart, the last from one to two hours before the expected paroxysm.

I have been accustomed for many years to prescribe powdered ginger along with quinine, in equal quantities, and I have felt convinced that I could get along with smaller doses of the quinine itself by adding the ginger in the treatment of our ordinary intermittents. I have known ginger alone, administered in a large dose in hot milk, to break up chronic ague of the quartan type when quinine had conspicuously failed. In a number of cases I have also added pulverized capsicum, a grain to four of quinine, but it is curious that the first dose of this combination often acts as a free purgative.

But cases of chronic and severe malarial infection are continually occurring in which quinine seems wholly to fail to cure the disease. Such a problem confronted me when my colleague at the Roosevelt Hospital, to whose service I succeeded on the 1st of September, told me that the soldiers in the wards had been there from the 17th of August, and that, though he had tried every form of administering quinine as to dose or method, as well as Warburg's tincture, and free administration of arsenic, yet the general results had been very unsatisfactory. In some cases large doses of quinine held the temperature for a few days, but only to be followed by relapses. The best results with this drug were in patients who had true intermissions, but these were a small minority, the fever with most of the others running a continuous but very irregular course, the predominant form of the plasmodium being of the estivo-autumnal variety. I determined then to try the most ancient of known remedies against malarial poisoning—namely, opium—as an adjuvant to quinine. Forty-seven of the actively febrile cases, with temperature ranging from 103 to 106 degrees F., were chosen, while check cases, in equal number at first, were left with the former treatment. I chose the camphorated tincture of opium as the most suitable preparation on account of its stimulant properties, and gave it in three daily doses of half an ounce each, with doses of fifteen grains each of quinine and of ginger twice a day.

As I have already published a detailed account of our observations on the effects of the camphorated tincture of opium as an adjuvant to quinine in these Roosevelt Hos-

pital cases, I will only quote from it the following: In twenty-two, or forty-seven per cent of the number who took paregoric, the result was an immediate break in the fever —that is, the temperature fell to normal in twenty-four hours, nor did it rise again afterward. This effect was the more impressive because in every instance they had been unavailingly treated with quinine and Warburg's tincture for an average period of ten days previously without reducing the fever. Of the remaining twenty-five out of the forty-seven there were ten patients, or about twenty-one per cent, in whom it took from thirty-six to forty-eight hours to reduce the temperature to normal. No relapse was recorded in the case of any patient who took the paregoric treatment after the temperature was once reduced to normal.

Sir William Roberts, chairman of the British royal commission, appointed to investigate the opium question in India in the years 1893-94, maintains that the antimalarial properties of opium are due to its alkaloid, commonly named narcotine, but which he maintains should be termed anarcotine, as it has neither anodyne nor narcotic properties. The proportions of the two alkaloids in Smyrna opium are morphine, 8 per cent; narcotine, 2 per cent; while in Bengal or India opium the proportion is morphine, 4 per cent, and narcotine, 6 per cent. In many cases, according to the voluminous statistics of British India surgeons, narcotine administered alone has been more efficacious than quinine as an antiperiodic. One of the most striking effects of the paregoric treatment in my hands was its unlooked-for antistuporous properties, so to speak. Instead of manifesting the usual symptoms of opiates, many of the actively febrile patients were roused by it out of the characteristic lethargy of the fever, and even in the weak apyretic patients with pronounced anemia the testimony was almost uniform that they felt better and stronger after taking it, the effects appearing the very reverse of narcotic and more like those of a cardiac and general nervous stimulant. I have noted analogous results also in private practice in the treatment of chronic malarial infection, notably when the patients complained of repeated headaches and general malaise, so that I have no hesitation in recommending this preparation of opium as one of our most trustworthy agents in the management of this common cause of prolonged invalidism in our climate.

The Insanity Problem.

It is not probable that we shall ever wholly succeed in protecting person and property against the first violent manifestation of unrecognized insanity, but all persons who have once been shown to be insane, even if only temporarily, should be kept under competent supervision and such restraint as may be found necessary. There should be no known lunatics at large, however "harmless" they may be rated. The public hardly seems to appreciate the danger it is in from the outbursts of insane propensities, and this, it is to be suspected, is in great measure due to the community's sense of self-preservation having been drowned in a sentimentality that has been aroused and is continually nourished by harrowing tales of sane persons wrongfully immured in asylums and of the cruelties alleged to be practiced in such institutions. Nevertheless, the danger is great. A recent writer in the "Central-Blatt" for April 14 points out that accounts of outrages by lunatics are daily to be found in the newspapers in Germany, and that "Les Alienes en liberte" is a standing headline in the great French journals of psychiatry. He cites an instance in which a young man's offenses in several German towns have been condoned on the score of his insanity, and yet he is still at liberty.

But the great asylums are full almost everywhere. What is to be done? Shall we establish great colonies for the insane

like the one at Dun-sur-Auron, in France? In the "Progres Medical" for June 3 the editor, Dr. Bourneville, the well-known alienist, says that the insane there colonized complained bitterly of their exile and of their not being able to receive visits from their friends. The "family treatment" of the insane—that is, their maintenance and protection in family establishments, either their own or those of strangers—will apparently have to be resorted to on a larger scale than it has been heretofore. It is favored by the German Reichstag, but the writer in the "Irrenfreund" hints that the degree of medical supervision provided for is inadequate, not necessarily amounting to more than an examination once a year by the district physician. The problem of the family treatment of the insane has been earnestly studied by a number of French psychiatrists of distinction, particularly Dr. Cullerre and Dr. Bourneville, and the prevailing opinion among them seems to be that that form of management is applicable to a large percentage of the insane, especially at the beginning of their malady, but that it should not be carried out in their own families, but in those of strangers living within easy access of some large asylum, so that the patients may at all times be under adequate medical supervision. Experience in various countries seems to show that this is the best solution of the insanity problem at present attainable, though of course eternal vigilance is required in carrying out the plan.—N. Y. Med. Jour. Editorial.

The Illinois Practice Act.

The first quarterly meeting of the Board of Health since the passage of the new practice act, was held July 11, in Chicago, at which time the following rules were adopted:

State certificates authorizing the practice of medicine and surgery in the state of Illinois are issued by the State Board of Health on complying with the following requirements, based on the Act to Regulate the Practice of Medicine in the State of Illinois, in force July 1, 1899:

1. The applicant must present to the State Board of Health for verification at the office of the secretary, in Springfield, or in Chicago, at the time of the examination, the diploma or license of a legally chartered medical institution in good standing. The diploma or license should be forwarded, prepaid, by express or registered mail. If by mail, letter postage must be affixed to the package.

2. Said diploma or license must be accompanied by the affidavit of the holder and applicant that he or she is the lawful possessor of the same, and is the person named therein. The affidavit must show, also, the number of years the applicant has studied medicine, including the time spent in attendance at medical colleges.

3. The affidavit must be accompanied by letters of recommendation with regard to the moral and professional character of the applicant from at least two reputable men who live in Illinois, or, if from non-residents of the state, such letters must be indorsed by reputable medical men of Illinois.

4. The applicant must pass an examination in those general subjects and topics a knowledge of which is commonly and generally required of candidates for the degree of Doctor of Medicine by reputable medical colleges in the United States.

5. The fee of $10 for an examination must be paid in advance. If not paid in person, the fee should be transmitted by postal money order, draft or check, made payable to the secretary of the State Board of Health. No responsibility will be assumed for fees transmitted in any other manner.

The fee of $5 for a certificate can be paid in advance, or when the applicant is notified that a certificate will be issued.

6. Persons desiring to take an examination should file their applications with the secretary as soon as possible, so as to en-

able the board to determine as far as practicable the number to arrange for. It is preferred that the affidavit and letters of recommendation be submitted in due form to the secretary at Springfield before the examination.

Examinations will be held quarterly in Chicago, at the Great Northern Hotel, or, in exceptional instances, in the office of the board at Springfield.

At the same meeting the board adopted the following resolution:

Whereas, Section 2, of an Act to Regulate the Practice of Medicine in the State of Illinois, and to repeal an act named therein, approved April 24, 1899, in force July 1, 1899, gives the State Board of Health discretionary power as to granting certificates to graduates of legally chartered medical colleges in Illinois in good standing, as may be determined by the board; and,

Whereas, It is evident, notwithstanding the discretionary power given the board, that the true intent and purpose of this Act is to require all persons to prove their qualifications to the State Board of Health by passing an examination; therefore, be it

Resolved, That all applicants for a state certificate to practice medicine and surgery in the state of Illinois, who are graduates of medical colleges in good standing, as may be determined by this board, shall, before receiving a certificate, be obliged to pass an examination such as contemplated in Section 2, of an Act to Regulate the Practice of Medicine in the State of Illinois, in force July 1, 1899.

Resolved, That the phrase "medical college or institution in good standing," in the first paragraph of Section 2, of the Act to Regulate the Practice of Medicine in the State of Illinois, in force July 1, 1899, is hereby defined to include only legally organized, properly conducted medical institutions, having a sufficient and competent corps of instructors and ample facilities for teaching, dissections, ambulatory and hospital clinics, which conform to the requirements relative to the preliminary education of matriculants, the course and period of study, the number, character and length of lecture terms, the duration of attendance on hospital and clinical instruction, which obtain in the majority of medical colleges in the United States.

The Illinois State Board of Health, however, will not consider in good standing, after January 1, 1900, any medical institution which does not require of all students (excepting graduates of reputable colleges of arts and sciences, or reputable colleges of dentistry, pharmacy or veterinary medicine, to whom one year's advanced standing may be granted), as a condition of graduation, an attendance of four full courses of lectures of at least six months each, in four separate years, no two courses commencing or ending in the same calendar year of time.

Resolved, That no medical college issue a catalogue of announcement in which are contained misrepresentations respecting its teaching, clinical or hospital facilities, its faculty or its courses of study, or false representation as to the number of students matriculated or in attendance, will be regarded as in good standing.

Electro-Therapeutic Association.

The American Electro-Therapeutic Association will hold its ninth annual meeting at Washington, D. C., September 19, 20 and 21, 1899. The president, Dr. F. B. Bishop, has appointed the following as committee of arrangements: Drs. Hickling, Johnson, Magruder, Sowers, Reyburn and Massey.

Willard's Hotel has been chosen as headquarters and special rates have been made for all interested in this meeting.

Many able papers have been promised and a very successful scientific meeting is assured. There will be a large and varied exhibition of electro-therapeutic apparatus in Willard's Hall during the meeting of the association. The committee promises a very pleasant social program, including a

reception by the President of the United States, an excursion to Mt. Vernon, Arlington and Alexandria, a buffet lunch to be served at Alexandria, an evening visit to the Congressional Library, to be viewed under electrical illumination. Provisions have also been made to visit the War, State and Navy departments, the United States Treasury and other public buildings.

It is earnestly hoped that every fellow, active, honorary and associate, will be present at this meeting, as we want to make it rank among the notable meetings of this association.

Very sincerely,

D. PERCY HICKLING

The Busy Doctor.

Dr. Culbertson, in a recent editorial, makes these very pertinent and practical remarks:

Occasionally a letter is received in which the writer gravely says he is taking so many journals he cannot read the half of them, etc., the polite phrases being framed as an excuse for discontinuing his subscription, which is all right and in perfect accord with the privilege of every man who knows and attends to his own business, with which there is no occasion whatever for argument. It serves, however, as an introduction to the claim made that he has not time to read half the journals he is taking.

The time was, and is not so very far back, when the ordinary general practitioner of medicine thought he was doing entire justice to himself, his profession and his clients if he took a single medical journal. Conditions and times have greatly changed within the last twenty years. A medical education costs more than twice as much time and money as it did then, and the literature of medicine has quadrupled within that period. Friction and competition have increased in a similar ratio, so that the men who are ambitious to be at the front find themselves obliged to purchase new and improved instruments of precision, new books, and to take more than one or two medical journals. The man who has little business is always the one most crowded for time, and the little business he has is his boss.

The men who do the most work and accomplish great results always have time at their command, and always boss their business. They are rarely crowded, and seldom in a hurry. Visitors are received and made to feel a welcome that is not an intrusion, that time is easy, no fret or fidget; work is either going on or there is a timely rest. Such men take and read from ten to twenty or more journals. They don't pretend to read every article, but they carefully read those in which they are interested, and scan more or less closely the advertising pages. In the latter many useful hints are found; here they find reference to the tools of latest pattern and design, hence do not pretend to pass them by.

The known men in the profession are the very ones who can be most easily and successfully approached for any given purpose, whether it be to write an article or deliver a lecture, go on a journey or engage in a new enterprise. Their engagements are rarely pressing, and are always so dovetailed in time as to leave ample margins, and at the same time always fit in the right places.

The man who hasn't time to read half of the two journals he is taking is either fussing about a call he has to make or fretting because another doctor was called where he expected to officiate as chief factotum. In either instance his hours are so jaggered that he has little or no time to read, and that which he does read is not remembered.

Two things are never realized by the man who hasn't time; one is that there are even and exactly sixty minutes in every hour, and the other is like it, in which he fails to understand in its true bearings that there are neither more nor less than one hundred cents in every dollar.

The busiest men in the medical profes-

sion always attend the national, state and local medical societies. They are the ones who read papers, take part in the discussions and then attend all the social functions. Not once are they disconcerted by pressing business engagements, a reason for which is found in the fact that just at that time affairs are so arranged that a pressure does not come.

The men who can't get off to attend such meetings are worried and perplexed for fear some rival will profit by their absence, instead of swapping time and business with such rivals, through which both would prosper and be better thought of. The world is wide, and there are other pebbles on the beach.

ANEMIA.

As a consequent of mumps, Dr. David L. Field of Jeffersonville, Ind., writes concerning several cases of anemia in children who had suffered from mumps:

In these children there was no orchitis or translation of the disease to any other organ, but the cases were attended with extreme languor and high temperature range. Nothing in the usual iron remedies gave relief for the anemia which followed upon these cases, and Dr. Field put them upon Henry's Three-Chlorides, a remedy which has never disappointed him in the treatment of anemia, from any cause.

In these children the remedy proved most happy, and very prompt, in doses of one-half to one teaspoonful in water or milk after meals.

An elegant method of giving bismuth in the treatment of infantile diarrhea, that of dysentery, phthisis or typhoid in adults, is to prescribe Bisol in solution. It is more efficient than the older bismuth salts in all gastro-intestinal disorders and is prescribed in smaller doses. Combined with salicylic acid, it forms a salicylate of bismuth more powerful than any heretofore known.

ITEMS.

Drs. Bernays and Meisenbach have each tendered their resignations to the medical colleges with which they have been connected.

It is said that the government is seriously considering the proposition to erect and equip a hospital for consumptives in the service of the merchant marine.

An unusual amount of smallpox seems to be raging in certain portions of the country, particularly the East, about 150 cases being reported from Pennsylvania alone.

The venerable Sir John Moore, of Edinburgh, died on the 14th of June last at the great age of ninety-one. He was the father of the Royal College of Physicians of Edinbugh and took his M. D. in 1828.

Anyone having a desirable opening for sale, with good reasons for selling, may learn of a purchaser by addressing, with full particulars, "B. J. E.," care of editor Chicago Clinic, 819 Harrison street.

Dr. Wm. Allen Pusey, secretary of the College of Physicians and Surgeons, was recently elected president of the directory of the Physicians' Club of Chicago. He, with his family, is spending the summer abroad.

A most unusual number of Chicago physicians are spending a vacation abroad this year. We can recall not less than fifty whose minds, on pleasure or investigation bent, have hied themselves across the pond.

The index to the first half of the year's issue of the "Journal of the American Medical Association," which recently appeared, is certainly one of the most exhaustive and complete ever published by a medical journal.

We are promised one or more articles in the near future by Dr. J. E. Barrett, who has had a year's experience with the troops in our new possessions. One of these communications will treat of the lepers of Honolulu.

The California Fig Syrup Company were recently granted a permanent injunction against Worden & Co., by the United States Court, preventing them from using a similar name, package, carton, etc., or in any way imitating the preparation of the Fig Syrup Company.

The death of Dr. S. G. Clendenin, who has been prominent in army medical affairs in Cuba, and who was well known to many western physicians, is announced from Santiago. He was at the time of his death in charge of the army hospital at Santiago. The cause of death was yellow fever.

According to the "Lancet" for June 24, the remains of Mr. Lawson Tait were cremated at Anfield, Lancashire, and the ashes removed in an urn to be deposited, in accordance with his testamentary wishes, in Gogarth's Cave, an ancient Welsh burial ground at Llandudno, Wales.

A correspondent of the "Scientific American" gives the following harmless process: First paint the blackened parts with tincture of iodine, let remain until the black becomes white. The skin will then be red, but by applying ammonia the iodine will be bleached, leaving white instead of black stains of nitrate of silver.

Before J. Pierpont Morgan sailed for Europe, on April 5, he announced to the trustees of the Society of the Lying-in Hospital that he was satisfied with the conditions on which he offered them $1,000,000 with which to build a new hospital building, and that the money was at their disposal whenever they wished to take possession of it.

Dr. D. R. Brower of Chicago has been honored by the degree of LL. D., conferred by the Georgetown University, Washington, D. C., at its recent commencement. Dr. Brower expects to leave shortly for a six weeks' trip to the Hawaiian Islands. He will be accompanied from San Francisco by Professor Senn.—Jour. A. M. A.

Judge A. N. Taylor says: In determining whether or not a physician is possessed of the requisite amount of knowledge, or exercises the proper degree of skill, due regard must be had: First, to the school of medicine which he practices; and, second, to the advanced state of the profession at the time the particular services were rendered.

Dr. Allan T. Haight left for a two months' trip abroad on July 24. The doctor will read a paper on "Adenoids—Their Effect on the Ears," before the International Otological Congress, which convenes August 14 in London. He will meet at the congress several other Chicago otologists, among them Drs. Wm. Ballinger, N. H. Pierce and J. Hollinger.

In the nephritis of puerperal origin the prognosis is on the whole favorable, the estimation of danger being based upon the severity and frequency of the eclamptic seizures. Independently of the early outlook, the remote prognosis is uniformly good. When exceptions occur it is almost certain that the kidneys were diseased before the pregnancy developed.—Tirard.

It is now positively determined that the "Index Medicus" will not again be published under the previous management. Whether or not the Board of Trustees will voluntarily assume the responsibility as granted them by the Columbus resolution is as yet uncertain, but it is certainly to be hoped that they may find some way of renewing the life of so valuable a medical reference.

The last examination under the old medical-practice act was held at the Great Northern Hotel July 15, under the direction of Dr. J. A. Egan of the State Board of Health. There were only three candidates for doctors' certificates, these having made their applications before the new law went into effect. The three men were graduates of medical colleges not recognized by the board.

Dr. A. Ravogli of Cincinnati, who honors the Clinic by frequent contributions, has been knighted with the title of Cavaliere by King Humbert of Italy. The good doctor is to be congratulated, while King Humbert may rest assured the title is most worthily bestowed. Dr. Ravogli has for many years past been the Italian consul in Cincinnati. The doctor and his good wife never miss an important medical meeting.

At the meeting of the Chicago Medical Society, June 21, the annual election of officers resulted as follows: President, Junius C. Hoag; first vice-president, Henry B. Favill; second vice-president, Hugh T. Patrick; secretary, Arthur R. Edwards; treasurer, S. C. Plummer, Jr.; neurologist, Herman Peterson; trustees, John M. Dodson, A. D. Bevan and Sanger Brown; judiciary committeeman, Dr. Bevan; publication committeeman, Frank Billings; auditing committeeman, F. S. Johnson.

Dr. Robert L. Rea died at his home in Chicago, July 11, aged seventy-two years. Dr. Rea had retired from active practice some years ago, but during his life he had been quite prominent in medical affairs. He had been professor of anatomy in the Ohio Medical College, from which college he graduated; professor of physiology in Western Female Seminary at Oxford, O.; professor of anatomy in Rush, later in the same capacity in Chicago Medical, and in 1882 was elected to the chair of surgery in College of Physicians and Surgeons.

Times change and we must change with them or be left behind. And change is no disgrace to old or young, provided it be in the direction of truth. We are indeed living in an epoch of revolutionary change, some of which may be toward error, but much is progress toward a clearer and a brighter day. Let us catch the spirit and movement of our time, lest, unhappily, we find ourselves drifting and finally motionless in a stagnant pool.

San Francisco physicions have started a "black list" against millionaires. The proposed safeguard is the result of a prolonged lawsuit between Dr. C. F. Buckley and Millionaire James V. Coleman over a bill which the latter refused to pay on the ground that it was too large. The court rendered a verdict of $4,000 for the doctor, which was a little less than half the amount he had first asked for his attendance on the millionaire.—Med. Times.

"Sare," he cried, "you ar-r-re no zhentleman!"

The hot blood dyed the officer's brow.

"Sac-r-re!" he hissed; "do you know who eet ees zat you insult?"

"Pouf!" cried the civilian; "I do not care."

"Do you veesh to fight?"

"Yes. Now and at once."

"Do you not know zat I am one of ze best swor-rdsmen in Fr-r-rance?"

"No. It makes no deeference."

"And do you want to die now?"

"Yes. Right now."

There was a moment's silence.

"I would gladly keell you," said the officer, "but eet ees not possible at zee pr-r-resent moment."

"Not possible. Why not?"

"Because I vill nevaire consent to fight wiz swor-r-rds zat are not pr-r-roperly r-r-rendered antiseptic. Bonjour, monsieur."

DR. J. H. SALISBURY.

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The Clinical Significance of Variations in the Amount of Urinary Solids.

By J. H. SALISBURY, A.M., M.D.
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The importance of the renal excretion is recognized by all physicians, and the detection and determination of its various components have been carried to a high degree of perfection. In practice, however, the difficulties of making exact quantitative analyses are such as to deter most physicians from attempting it. The estimation of the amount of total solids is, on the other hand, both simple and easy, and would seem to offer a means of estimating the aggregate of the renal functions, which is more useful than single determinations, because it includes the excretion of substances which we have no exact means of estimating by themselves.

The determination of the amount of solids is very simple. The methods which require much time, and aim at great accuracy, are not regarded as at all preferable to the simple plan of calculating the total solids from the specific gravity. The last two figures of the specific gravity, multiplied by 2.2 or 2.33, give the proportion of solids per 1,000. This, multiplied by the numbers of liters passed in twenty-four hours, will give the number of grams of solids excreted by the kidneys. For those who still use the fluid ounce and grain, the very simple formula that the number of grains per ounce is equal to the last two figures of the specific gravity, multiplied by 1.1, is sufficiently accurate.

In such estimates the necessity of a normal standard is paramount. Text-books of physiology give the average amount of solids, but the quantity is subject to such wide variations that unless the quantity falls below a very low minimum it is impossible to say that the renal excretion is deficient.

The variations in urinary solids correspond to several factors which must be taken into consideration before we can take the amount passed as a valuable indication in the diagnosis of disease. The factors usually considered are age, sex and body weight. The usual statement with reference to age is that the amount excreted in infancy and childhood is absolutely smaller, but relatively greater, in proportion to body weight than in adult life. In old age it is absolutely and relatively less. The excretion of urea is normally about one-half of the total solids. Harley gives the following as the excretion of urea in children aged eighteen months, as compared with that of adults aged twenty-seven years:

	Quantity of urea.		Per lb. body weight
Boy..18 mos.	124-186	grains	6.2
Girl..18 mos.	93-139	grains	5.4
Man.27 yrs.	387.5-542.5	grains	3.8
Woman.27 yrs.	310-465	grains	3.1

If we multiply these figures by 2 for the proportion per pound of total solids, we have in infancy 12.4 grains per pound as compared with 7.6 in the adult.

According to Camerer the daily excretion of urea per kilo of body weight in children from two to eleven years amounts to 1.12-0.8-0.64 grams. In an eleven-year-old child it is not essentially higher than in an adult.

Males excrete somewhat more than females. In relation to body weight a ratio of 1.1 per 1,000, or 7.7 grains per pound, is given. This must be modified by the age of the individual. Ralfe adopts the following as the normal standard of urea in proportion to body weight:

Pounds.	Grains urea per lb.	Grain solids.
40-60	4½	9
60-120	4	8
120-160	3½	7
160-175	3¼	6½
175-196	3	6

The figures for solids are my own, obtained by doubling the proportion of urea.

The amount of fat should be taken into consideration, for there is no reason to suppose that adipose tissue takes as active a part in nitrogenous metabolism as muscular and glandular tissue. Such a table as the above, however, gives only the average and is subject to wide variations. Thus, in five cases which I took from healthy individuals, it varied from 5 grains per pound to 10.5 grains. The variations are also great in individual cases. Thus in my own case, when in good health, the ratio varied from 5.9 grains to 7.6 grains—a variation of over 22 per cent. With a considerable reduction of diet the ratio fell to 3 grains per pound. These extreme variations make the ratio of 1.1 per 1,000 very unsatisfactory for determining the normal amount of excretion. As urea forms about half the total solids of the urine we may assume that the total solids will vary with variations in the amount of urea. Numerous experiments show that the amount of urea varies directly in proportion to the amount of proteids contained in the food. According to Voit, the amount of urea is equal to the amount of urea which can be formed from the nitrogen which the system receives in the form of nourishment, and Bouchard has drawn the conclusion that 100 grams of meat increases the excretion of urea by six grains.

Lehman gives the solids in urine under various diets as follows:

Animal diet.....87.44 grams
Mixed diet.....67.82 grams
Vegetable diet.....59.23 grams
Non-nitrogenous diet.41.68 grams

Ranke found the entire excretion of solids in twenty-four hours

With complete abstinence as.....25 grams
With consumption of 1,832 grams
of meat as.....132.7 grams

It will thus be seen that the amount of solids, like that of urea, varies with the nitrogen of the food, although not to the same extent. I have not been able to find an exact statement of the relation between the amount of food and the solids of the urine. I have made the following experiments bearing on this question:

1st. Milk and crackers were chosen as the food. The milk was measured and the crackers weighed, and the nitrogen in the food estimated from the known composition of these articles.

A lady medical student lived on one quart of milk and three-fourths of a pound of crackers daily for three days, and then began the measurement of the urine and estimation of the total solids.

On the fourth day she passed...785.4 grs.
On the fifth day she passed.....731.5 grs.

Her weight is 140 pounds.

I experimented on myself as follows. My weight is 180 pounds. I consumed two quarts of milk and one-half pound of crackers:

On the first day I excreted 648 grains of solids.

On the second day I excreted 858 grains of solids.

On the third day I excreted 825 grains of solids.

On the fourth day I excreted 729 grains of solids. (On this day I took only 60 ounces of milk.)

On the fifth day, ordinary diet, 750 grains of solids.

I next experimented with one quart of milk. I lived on this one day without measurement of the urine, and the next day, continuing the same diet, I passed 520 grains of solids.

The next day I increased my diet to two quarts of milk, one pound of crackers, one-half pound of rice and one pound of meat.

The next day I consumed two pounds of meat and one-half pound of crackers, and continued the same diet for the third day. Under this increased diet the solids were:

First day .....1,150 grains
Second day.....1,384 grains
Third day .....1,378 grains

These results show that while the solids vary with the amount of nitrogen in the food, they are not exactly proportional to it.

If we subtract the amount of urea corresponding to the nitrogen in the food consumed we have a remainder varying from 178 to 341.4 grains. This is due to the inorganic salts excreted, which are probably not as much influenced by the food as the urea.

Table showing solids in urine, nitrogen in food, urea corresponding to the nitrogen and remainder:

Solids.	Nitrogen.	Urea.	Remainder.
785.4	207.6	444.	341.4
731.5	207.6	444.	287.5
858.	264.	565.5	292.5
825.	264.	565.5	256.5
729.	253.	542.1	177.9
750.	264.	565.5	184.5
520.	88.	188.5	331.5
1384.	538.88	1154.	230.
1378.	538.88	1154.	224.

It is evident that increase or diminution of the solids of the urine can only be taken as evidence of disease when we take into account the various factors which influence the excretion in a normal state. Not only must the quality, but also the quantity, of food be considered. If we determine the urinary solids in a person taking little food we will almost certainly find them below the normal, as expressed by the average proportion in relation to body weight. But the diminution is only evidence of lack of appetite, and not of faulty metabolism or retained excreta. The expressions animal and vegetable diet are certainly very loose, since they do not take into consideration the amount of food consumed. If we can put the patient upon a fixed diet we may determine from the amount of food taken whether the excretion of solids corresponds to the amount normally produced from the same amount of food.

The food should be varied enough so that the appetite may continue as nearly normal as possible. The amount of food should be sufficient for nourishment, because if this is not the case the albuminous compounds of the tissues are likely to be broken up and the urea derived from these will increase the solids so that the amount derived from the food cannot be properly estimated.

The following remarks of Salkowski in reference to the clinical estimation of urea seem equally applicable to the determination of the total solids:

"For the estimation of pathological states the knowledge of the normal amount of urea is only of secondary importance. It is seldom that a quantitative estimation is made with the view of learning how much nourishment the patient absorbs. Such a conclusion can only be drawn in diseases unaccompanied by fever or wasting, in which nitrogenous equilibrium can be assumed as in healthy individuals. In other cases it would be erroneous, because the urea in disease arises not only from the food, but also from the tissues of the body. The morbid organism does not find itself in nitrogenous equilibrium, but gives out urea continually from its own tissue and would continue so to do with ever so abundant ingestion of albumen, if such a thing were possible.

"What we seek to learn from the investigation of the excretion of urea in disease is how much albumen or muscle the patient's body itself loses. To obtain an estimate of this we must subtract from the amount of urea found the amount which corresponds to the nitrogen in the food ingested."

A few words with regard to the collection and measurement of the urine may not be out of place. The specific gravity and quantity of the mixed urine for twenty-four hours should in all cases be taken. It seems to me best to begin the collection of the urine in the morning, rejecting the urine first passed in order that the influence of food ingested the previous day shall be as far as possible eliminated, and continue until the following morning, including the urine passed on rising. Since the solids vary less than urea, it is evident that if only one can be determined the estimation of the quantity of solids will yield more valuable conclusions than that of urea alone.

Pathologically, an increase of urinary solids above that due to the food taken and not due to sugar must mean an abnormally increased metabolism of the albuminous constituents of the tissues with a corresponding increase in urea phosphates, sulphates, etc. This occurs in fevers and other wasting diseases in which the albuminous material of the tissues are broken down, probably to furnish material with which to keep up the fever.

It is to the diminution in urea and in urinary solids, below the amount proportional to the food, that the greatest interest attaches. This occurs in structural disease of the kidneys in consequence of their failing function. In cases where there is no organic disease such a diminution must be due either to insufficient functional activity of the kidneys or to imperfect digestion, by which the materials of the food are not absorbed. Another condition must be mentioned, in which we should expect that the urinary solids would not correspond to the food consumed, viz., in growing children

and in adults convalescing from fevers or other wasting diseases.

It is generally accepted that there are various pathological states due to deficient elimination by the kidneys, and it has been assumed that the functional activity of the kidneys can be measured by the solids excreted. It is to be feared that many of the observations that have been made with reference to this matter are inexact, because the amount of the food has not been taken into consideration.

Further investigation of the relation of the amount of urinary solids to pathological states would be very desirable. As, however, the estimation of the amount of solids can give us no exact information as to the relative proportions of the various constituents, too much reliance ought not to be placed upon it.

A Plea for Radical Treatment of Hay Fever.

By CHAS. E. CLARK, M.D., Kansas City, Mo.
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My only apology in offering a paper upon such an important subject without attempting to offer any new ideas is that, in judging of the prognosis frequently offered to patients by the profession, there must yet be much misapprehension regarding the true status of this disease.

Without entering into historical details, I wish to recall to your minds that the first lucid account of the disease was given by John Bostock in 1819, who described "a periódical affection of the eyes and chest," from which he was himself a sufferer. In 1828 he wrote another paper upon the subject, calling the affection "summer catarrh."

In 1862 Phœbus, of Giessen, Germany, published a paper reciting one case; following which he directed circular letters of inquiry to the medical profession of the world, containing a list of questions touching every phase of the disease. As a result of the information thus acquired considerable progress was made, and the pollen theory of etiology was evolved.

In 1875 Blackley of Manchester contributed the most scientific paper yet written upon the subject, in which he corroborated the pollen theory of etiology and further asserted that the severity of the disease bore a direct relation to the amount of pollen present in the atmosphere. In 1876 Beard of New York published information which he had gathered in the treatment of a considerable number of cases, and by correspondence with over two hundred hay fever sufferers. In his statistics he also confirmed the pollen theory, and elicited the additional information that a very large per cent of the cases so affected were of a nervous temperament, and that nerve tonics had an important place in treatment. So fixed had Blackley and his followrs become in their belief in the pollen theory that this intrusion of a new etiological factor was met with the observation that its author was a member of two neurological societies, and hence his views must be received with a due degree of caution.

Illustrative of the one idea zeal with which the pollen advocates adhere to their theory and seek to logically explain its action might be mentioned the ludicrous theory advanced by Mr. Wright Wilson, viz.: "That the pollen granule, being only one-tenth the size of the red blood corpuscles, readily passes through the vessel wall and acts as a foreign body in the blood current." Dr. J. N. McKenzie comments on this theory as follows:

"Through ciliated epithelium, basement membrane, and vessel wall, the dreadful vitalized ameboid pest of the summer months is launched into the general circulation. Does it feast on the nuclei of the white corpuscles as its legitimate prey, or does it seek its pabulum in the more organized and nutritious protoplasm of their redder and more numerous companions? Is it carried into the more remote organs on the crest of the serous wave, or is it whirled through the circulation on the back of the red blood cell? Is the dyspnea of this disorder due to pollen emboli in the lungs or to granular invasion of the respiratory center? Are we at last to realize the poetic conception of

"Quick effluvia darting through the brain,
Die of a rose in aromatic pain?"

In 1881 my friend and former associate, Dr. William H. Daly of Pittsburg, Pa., read a paper before the American Laryngological Association in which he showed by the recital of a series of cases that in at least a very large proportion of the

cases affected with hay fever there is a local disease of the nose or naso-pharynx, varying from a simple hyperesthesia to pronounced structural changes, such as hypertrophic rhinitis, polypi, etc., without which the exciting, or, as he designates it, "extrinsic" cause, pollen, is innocuous; and the cure of the affection may be accomplished through the removal of the local, or "intrinsic" cause.

While the observations of Beard directing attention and treatment to the nervous system, thereby enabling constitutional treatment to mitigate to some extent the severity of the disease in certain individuals, and while the previous observations of the pollen theory suggested immunity from the disease by the removal from their customary place of residence during certain periods of the year, yet to Daly belongs the credit of promulgating the theory of a third etiological factor and outlining a treatment both practical and efficient.

Much has been written since the acceptance of the theory of a local cause, touching on the exact nature of such disturbance, and while it is undoubtedly a fact that almost any portion of the nasal mucous membrane may become the site of sensitive areas, yet it is also probably true, as observed by J. N. McKenzie, "that the area most sensitive to reflex producing impressions is represented by the portion of the mucous membrane which covers the turbinated corpora cavernosa, the most sensitive spots being in the mucous membrane covering the posterior extremity of the inferior turbinated body, and the septum immediately opposite, a zone corresponding to the distribution of the spheno-palatine branches of the superior maxillary nerve, which, derived through the spheno-palatine ganglion, probably contains the vaso-motor fibers which govern the erection of the turbinated tissue." In short, to have a paroxysm of hay fever there must be present three etiological factors as suggested by Sir Andrew Clark in 1887:

1. A neurotic habit.
2. An intra-nasal pathological condition.
3. An external exciting cause.

The latter expression (an external exciting cause) is preferred rather than "the pollen," as this classification includes pollen as well as many other substances which are now recognized as being capable of exciting a paroxysm of hay fever. The absence of any one of these factors breaks the chain requisite for the production of the paroxysm. The problem which confronts us, then, in the treatment of this affection is, which factor can be the most readily overcome?

All physicians, whether general practitioners or specialists, realize what it is to overcome a decided neurotic tendency in the treatment of any disease wherein it furnishes a complication.

To remove at all times the exciting cause is likewise difficult, and is generally effected by removing the patient from the cause, rather than the cause from the patient. Social and business duties, as well as circumstances in life, frequently render this extremely difficult, if not impossible. All things considered, then, the most practical method of relief, and the one whose beneficent results are within the reach of the most humble walks of life, is the removal of the local pathological conditions. Treatment to this end may be commenced either during the interval between attacks or during the height of the paroxysm, the result in either instance being almost invariably satisfactory and frequently almost magical. Local treatment may be either palliative or radical. Palliative treatment consists in the use of various sedative sprays, powders or ointments, the chief ingredients of which are generally cocaine, morphine, belladonna, etc., and at most can do no more than furnish temporary relief, and always with the possibility of establishing a drug habit much more terrible than the disease. Radical treatment consists in the complete removal of all abnormal conditions found in the nose or naso-pharynx by the use of such methods as may be required for each individual case. Polypi should be removed with the cold wire snare, and the pedicle thoroughly destroyed with the galvano-cautery. Marked vaso-paresis with distension of the turbinated corpora cavernosa should be incised with a fine cautery electrode from one extermity to the other and down to the bone, using care to destroy as little of the mucous surface as the requirements of the case will permit.

Areas of hyperesthesia with no vaso-motor disturbance may be touched with a moderately warm electrode, tincture io-

dine, or some other suitable counter-irritant.

All work must be done by use of reflected light, with skill and precision, and each sensitive spot, no matter how small, given proper consideration. In offering a prognosis as to the results to be derived from local treatment, I am inclined to think that as a rule our chances of success diminish just in proportion as the neurotic element becomes pronounced. However, as emphasizing the benefits to be derived from local treatment, even in a case of a most pronounced neurotic type, I desire to recite the following history of a case coming under my observation:

R. B. M., Garden City, Kan., referred to me August 29, 1897, by Dr. Geo. C. Mosher of this city. Aged twenty-four years; height, five feet eight inches; weight, 135 pounds; decided blonde, delicate physique and marked nervous temperament. Occupation, student in a commercial college. At the time he was suffering from a well developed and characteristic attack of hay fever. Had had an attack beginning about the latter part of July or first of August each year, for the last eight years, each attack lasting until frosts. At the age of puberty he was quite nervous, and suffered from the belief that every act he performed (such as picking up an object) should be repeated three times. He has been afflicted in like manner, but to a lesser degree, at various times since, but through more mature judgment and volition he has always been able to control the impulse. During the last six years he has suffered much at times from irritable heart action.

There is a history of insanity on the paternal side of the family several generations back, and his father suffered much from despondency following business reverses, and finally died of some form of brain disease at the age of fifty-six years. Mother died at the age of forty-nine, from some form of liver disease. Has one brother and one sister, both living and in good health. No brother or sister dead.

Examination reveals eyes much congested, nares congenitally small and entirely occluded. Both inferior turbinated bodies swollen, anemic and pressing upon the septum. In left nares there was a long horizontal enchrondrosis, near the inferior portion of the septum. The entire mucous membrane of both nares was extremely sensitive to the touch. Sneezing was more or less constant, becoming exaggerated upon exertion and greatly interfering with rest at night. His previous attacks seemed to have been aggravated most by inhaling dust from alfalfa.

Treatment.—At the time of referring the patient to me Dr. Mosher was giving him syrup trifolium compound, which was continued; but aside from this he took no internal or constitutional treatment. The local treatment consisted in destroying all sensitive areas with the galvano-cautery; selecting each point presenting the characteristic appearance, and thoroughly destroying it. He continued treatment for three weeks, at the close of which time all cauterized surfaces were healed, and the nares presented almost a normal appearance. He stated that after the first week of treatment he was quite comfortable during the day, and able to sleep at night.

While this is a case, as above suggested, which presented the neurotic element of etiology to a degree not often encountered, and one in which we would reasonably expect success by directing treatment largely in that direction, yet this was almost entirely ignored, and the most happy results obtained were due almost entirely to local efforts.

Since the recognition of the local factor in etiology, and the many reported cases of success, where the treatment has been directed wholly to that cause, even where the neurotic element would seem to predominate, as in the case just mentioned, I am satisfied that we should no longer treat these patients as incurables with the belief that they are at least suffering from a disease of aristocracy as their only object in living, but assure them that theirs is one of the most curable of diseases, when rationally and scientifically treated.

"Imprudent homicide" is a term used by French courts. It evidently includes what is understood in English jurisprudence by the term manslaughter by misadventure. Recently a Paris physician was sentenced to two months' imprisonment for "imprudent homicide." The imprudence in this case consisted in leaving a pair of forceps in the abdominal cavity after a laparotomy.—Med. Rev.

Dislocations of the Femur.

By W. T. Eckley, M.D.
Professor of Anatomy in College of Physicians and Surgeons, Chicago Clinical School and N. W. University Dental School, Chicago.

[A Lecture before the Anatomical Class of the Chicago Clinical School.]

Gentlemen:—I think you and I will enjoy some interchange of thought on the anatomy of the hip-joint, from the standpoint of the surgeon, with special reference to dislocations of the head of the femur.

This ground has been gone over again and again in current literature, as well as in our text-books, and were it not for the fact that I desire you to produce all the dislocations of the hip and reduce the same, on these cadavers to-night, an apology on my part might be the proper thing.

I shall deem it wise to call your attention to the osteology of the hip-joint, with reference to the paradox that physiological abduction of the thigh is a predisposing cause of luxations. I shall have you study the four conditions for dislocations, in the absence of which conditions no luxation is possible. I shall have you reduce dislocations on the cadavers, having produced the same yourselves by due observance of four conditions. We will study all the muscles ruptured in dislocations of the head of the femur. We will carefully note the correspondence between muscles and dislocations. We will find one primary dislocation and from this evolve the four classical dislocations. We will follow the succession of changes in limb posture, and see the agents that produce these changes. We will study the agents that render reduction of the head of the femur a difficult task. We will consider the nerve supply of the hip in the light of Hilton's law.

Osteology.—The head of the femur and the acetabulum are the bony parts directly concerned in the hip-joint. The articular part of the head is covered by cartilage. While no two heads show exactly the same amount of articular surface (since feeble or vigorous use of the limb determines this amount), still it may safely be stated that about two-thirds of the head is articular. In Fig. 1 you will notice the tereal depression, which lodges the ligamentum teres. This is an important structure, since upon it one of the four conditions to a dislocation of the hip-joint depends.

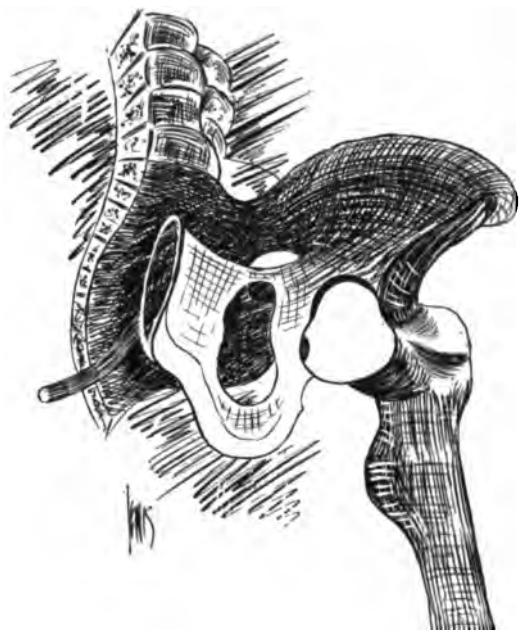

Fig. 1. Normal abduction of limb showing fully one-half of femoral head beyond the acetabulum.

In the same Fig. 1 observe in the upper third of the femur the massive neck of the bone, the greater trochanter, the lesser trochanter, the anterior and posterior intertrochanteric lines. We will see the importance of these presently, since into them are inserted muscles upon whose action axial rotation of the limb depends.

The acetabulum, Fig. 2, in the growth of the hip bone, is the junctional point of ischium, ilium and pubes, the pubes contributing one-fifth, the ischium and ilium each two-fifths to the grand circumference. This triple formation is of interest, since fractures may occur at these junctional lines.

Observe on this skeleton that about three-fourths of the acetabulum is articular and covered by cartilage; that about one-fourth is non-articular and covered, not by cartilage, but by the expanded part of the ligamentum teres. Observe that the articular part of the acetabulum limits the fossa acetabuli above, externally and below. Observe that the fossa acetabuli, or non-articular part of the acetabulum, terminates internally in a notch in the brim. Notice, further, that where the bony brim of the acetablum gives way to a notch, this part of the socket is strengthened only by a periosteal band, the transverse ligament. The

notch in the brim just referred to is of importance because vessels and nerves gain access to the joint here.

I wish you to see that (1) in flexion of the thigh on the abdomen, (2) in extension of the thigh on the pelvis, (3) in adduction of the thigh, the articular part of the head of the femur is deeply buried in the articular part of the acetabulum, and comparable to a tightly fitting wedge, and (4) that in abduction of the thigh more than one-half of the articular surface of the head is beyond the cotyloid notch, while the other half is in the fossa acetabuli, comparable to a loosely fitting wedge. This is of importance, because, as we shall show presently, it is one of the conditions for dislocation, since the limb is always in abduction in all dislocations.

Ligaments.—The cotyloid ligament deepens the cavity. The transverse ligament bridges the cotyloid notch. The ligamentum teres, said to be the divorced tendon of the pectineus muscle in primitive man, will be found to be of practical importance in dislocations. The basis of the hip-joint, however, is the capsule. This is of periosteal derivation, rendered very strong in the adult by much use. In the fetus the capsule is equally thick in all places. In the adult some parts of the capsule are much thicker, hence much stronger, than other parts. This is so because growth is the correlative of function. Other things equal, an increased activity that will make one muscle larger and stronger than its fellow is equally true of ligaments or their subdivisions. The primary movements of the hip-joint modify the capsule, making it very strong in some places. The ilio-femoral ligament, an all-important structure in dislocations of the hip, is only the front part of the capsule, rendered strong by increased activity.

Primary Movements.—The hip is a ball-and-socket joint. By primary movements, we will understand flexion, extension, abduction and adduction. Of course, secondary to these are axial rotation and circumduction. The primary movements accentuated in certain lines of traction, make the following strengthening bands of the capsule, (1) ilio-femoral, (2) ischio-femoral, (3) pectineo-femoral. The only one of them that concerns us is the ilio-femoral, or the so-called Y-ligament. In reduction of any variety of luxation of the hip the thigh must be flexed on the abdomen in order to relax this ligament.

Four Conditions Necessary.—Now, before you can produce a dislocation of the hip-joint on this cadaver you must comply with the four conditions which experience has taught precede every dislocation in this region of the living. There must be:

1. Abduction of the limb.
2. Laceration of the lower posterior part of the capsular ligament.
3. Rupture of the ligamentum teres.
4. Continuity of the ilio-femoral or Y-ligament.

You may now assist me in producing a dislocation of the head of the femur on this cadaver by complying with these four preceding conditions:

1. We make moderate abduction of the thigh. Now, if you will make deep pressure external to the femoral artery, and one inch below the ilio-pubic eminence, you will feel the globular femoral head. It is now somewhat more than half out of the socket at the shallow part of the acetabulum, as is normally the case in abduction of the thigh. Remember, the structure of the acetabulum is such as to make physiological abduction of the limb a predisposing cause of dislocation of the hip.

2. We now make more forcible abduction, the capsule is lacerated, the ligamentum teres is ruptured, but the Y-ligament is intact. This very position of the head of the femur in downward displacement, that

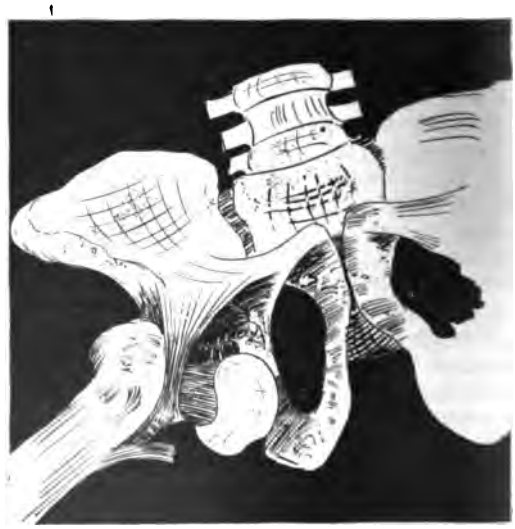

FIG. 2. Exaggerated abduction of thigh gives the misplacement from which are evolved the four classical dislocations

is easily reduced by adducting the limb, as you see now being done, is the Adam among the dislocations of the hip.

We now see the head of the bone displaced downward just below the acetabulum. This is the one primary dislocation, from which are evolved, by the action of certain agents, producing flexion with inward rotation on the one hand, and extension with outward rotation on the other. The following:

1. The dorsal iliac, in which the head of the bone is on the ilium, behind the acetabulum.
2. Sciatic, in which the head of the bone is on the ischium, behind the acetabulum.
3. The pubic, in which the head of the bone rests on the body of the pubic bone in front of the acetabulum.
4. The thyroid, in which the head of the bone rests in the thyroid foramen, in front of the acetabulum.

FIG. 3. Thyroid dislocation.

I shall now ask you to produce or evolve from the primary dislocation before you: (1) A variety of dislocation in which the head of the bone is anterior to the acetabulum; (2) a variety in which the head is posterior to the acetabulum. Now flex the dislocated limb on the pelvis, and at the same time produce inward rotation and observe the head of the bone pass backward onto the ischium. Now straighten the limb and observe the head pass to the dorsum of the ilium. Then you have produced the sciatic and dorsal iliac varieties, in both of which the head of the femur is behind the acetabulum. An exaggerated sciatic variety is a dorsal iliac dislocation. Now replace the head of the bone in the primary position of displacement and extend the thigh and rotate the limb outward, and you produce the thyroid and pubic varieties. The pubic form is an exaggerated thyroid variety of dislocation.

FIG. 4. Pubic dislocation.

You will remember we found four conditions necessary to a dislocation. Let us now ascertain, as nearly as possible, what the necessary condition of certain groups of muscles is after a dislocation. It is well understood by us all that in an injury as pronounced and grave as dislocation of the head of the femur:

1. Certain muscles must be lacerated.
2. Certain muscles must be stretched.

We will now produce again the backward dislocations of the head of the femur by these steps: Abduction, flexion and inward rotation. By this I wish you to see the ex-

FIG. 5. Backward dislocation showing head of femur on spine and tuber of the ischium

treme degree of tension of the ilio-psoas. It is stretched.

Now let us again produce the inward dislocations by abduction, extension and outward rotation. Here notice also the extreme tension of the ilo-psoas muscle. Then let us remember the neutrality of the ilio-psoas—stretched in all dislocations.

By dissecting the gluteus maximus carefully away, we find the gluteus medius ruptured. This we cut at its insertion into the oblique line of the greater trochanter, and by turning it aside we find the gluteus minimus ruptured. Now we find the primary external rotators, viz., the two gemelli, the pyriformis, the quadratus femoris and the two obturators, all more or less lacerated in all backward dislocations; at any rate, to such a degree are they ruptured that they can form no considerable obstacle to reduction. By dissecting the obturator region, we find the pectineus, gracilis and the three adductor lacerated, the adductor magnus but slightly in all forward dislocations.

FIG 6 Dorsal iliac dislocation

FIG. 7. Backward dislocation showing ruptured externa rotator muscles.

Correspondence of Muscles and Dislocations:—

There are two groups of muscles corresponding to the two varieties of dislocation. 1. The one is the internal or adductor group, and corresponds to the dislocation in front of the acetabulum. This variety of dislocation ruptures these muscles. 2. The other is the external or rotator group, including the gluteals; this group of muscles corresponds to dislocations behind the acetabulum. This variety of dislocation ruptures these muscles. In this connection you should remember this fact: 1. The muscles

of the internal or adductor group are all put on the stretch, in all backward dislocations, as we will now demonstrate on the cadaver. 2. The muscles of the external or rotator group are all put on the stretch in all forward dislocation. 3. A backward dislocation ruptures the rotator muscles and stretches the adductors. 4. A forward dislocation ruptures the adductors and stretches the rotators. 5. The ilio psoas muscle is unruptured and put on the stretch in all dislocations.

The hamstring muscles, by their powerful contraction, carry the head of the bone upward. Now I think we can demonstrate on the cadaver that these very hamstring muscles constitute the main factors that militate against reduction.

Resumé of muscles and other obstinate structures to be overcome in reduction: 1. We can all agree that a group of muscles, incapacitated by laceration at the time of the dislocation, forms no impediment to reduction. 2. We can also agree that muscles put on the stretch during a dislocation, will rather tend to facilitate than hinder reduction, under proper manipulation, and in arriving at a logical conclusion of this nature, we must assume proper manipulation.

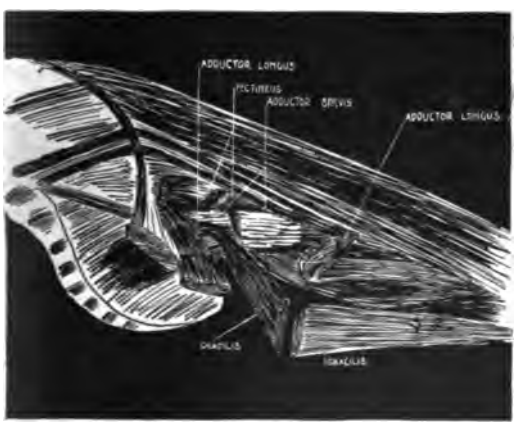

FIG. 8. Forward dislocations producing laceration of the adductor muscles.

On this cadaver on which we have repeatedly produced all the dislocations, we find the following structures ruptured: 1. In backward dislocation, the gluteii medius and minimus, the gemelli, the obturators, the quadratus femoris and the pyriformis, the capsule and ligamentum teres.

2. In inward dislocation the pectineus, the adductor brevis, the gracilis (partially) and the adductor longus, the capsule and ligamentum teres were ruptured.

3. Structures not found ruptured are the gluteus maximus, the adductor magnus (not to such extent as to impair its action), the ilio-psoas, the biceps, the semi-membra-

FIG. 9. Thyroid dislocation and obturator externus muscle.

nosus, semi-tendinosus, the rectus femoris and the Y-ligamentum.

Structures to be overcome in reduction:

1. The Y-ligament by flexion of thigh on the abdomen.

2. The ilio-psoas by flexion of thigh on the abdomen.

3. Gluteus maximus by external circumduction.

4. The adductor magnus, hamstring muscles and rectus femoris by anesthetics.

Moto-Sensory, Reflex Nerve Action:—

A wound of the cutaneous branch of the musculo-cutaneous nerve may produce contracture of the flexors of the forearm. A wound of one of the cutaneous branches of the circumflex nerve may immobilize the deltoid and teres minor. Infection of dental pulp or a bug in the ear, may produce lasting contraction of the muscles of mastication. Wound of the small sciatic nerve may produce contracture of the hamstring muscles and false ankylosis of the knee. In cases of dislocation of the hip-joint, the injury to the articular branch of

the joint produces reflex contraction of all the muscles that derive their nerve-supply from the same source. In the above cases we have examples of somatic moto-sensory reflex nerve action. The nerve entities concerned constitute a reflex circuit.

FIG. 10. Congenital dislocations, from W. C. Fuch's X-Ray Laboratory, Chicago.

Reflex Circuit:—

I know you are familiar with the phenomena in somatic reflexes, still the symmetry of this lecture demands this one physiological reference. Whether you speak of cremasteric, patellar or corneal reflexes, the principle in each is found in this triple anatomical device:

1. A sensory nerve to a transfer center.
2. A transfer center.
3. A motor nerve to a contractile area.

A tap on the ligamentum patellæ is followed by contraction of the muscles inserted into the patella. Irritation of the skin of the anterior and inner part of the thigh, is followed by contraction of the cremaster muscle. Corneal irritation is followed by contraction of the orb icularis palpebrarium.

Nerve Supply of the Hip:—

Nerves in general that supply muscles supply the joints that these muscles move. Were this otherwise, ambitious muscles might impose unwonted tasks on the joint. In other words, joint and muscle must keep tab on each other, that the orderly adjustment of inner to outer relation of Spencer may not be violated. In consonance with this law of Hilton, founded on the philosophy of Spencer, do we find the following nerve supply to the hip:

1. The interior crural nerve.
2. The obturator nerve.
3. The great sciatic nerve.
4. The accessor obturator nerve.
5. Branches of the sacral plexus.

Each of these nerves supplies a group of muscles that assist in the movements of the hip. In health the orderly adjustment of muscular contraction is so perfect that we are unconscious of movement in the joint. In case of disease, however, the relation is no longer an orderly adjustment. The sensory nerves of the joint call a halt on every muscle resting on the joint, hence the needful thing, the rational procedure, in the treatment of these cases, is to break up the reflex circuit by an anesthetic. This done, the spasticity in the hamstring and other unruptured muscles will cease, and proper manipulation will soon reduce the dislocation.

In conclusion, gentlemen, let us reduce our work to its simplest terms and remember that:

1. In all dislocations of the head of the femur, there must be laceration of the lower posterior part of the capsule, rupture of the ligamentum teres, abduction of the thigh and continuity of the ilio-femoral ligament.

2. In all dislocations, the ilio-psoas muscle is put on the stretch. In all the ilio-femoral ligament is tense, and in each form of dislocation reduction must be preceded by relaxation of this ligament by flexion of the thigh on the abdomen.

3. In all backward dislocations there is extensive laceration of the gluteus medius, minimus and all the external rotators.

4. In all the internal dislocations the pectineus, gracilis and long and short adductors are extensively lacerated.

5. In all physiological abduction of the thigh is a predisposing cause of dislocation, since in this position of the limb the head of the femur is more than half liberated from the bony thraldom of the acetabulum.

6. In all the rectus, adductor magnus, biceps, semi-tendinosus, and semi-membranosus, are factors which militate against reduction and should be overcome by anesthesia. These are the muscles that render an anesthetic imperative in reduction.

7. In all, proper manipulation alone will overcome the ilio-psoas, the gluteus maximus.

8. All four classical dislocations are evolved from one primary dislocation.

9. In all dislocations of the hip we must recognize that preternatural immobility is due to contraction of certain unruptured muscles; that this muscular contraction is reflex in origin and is amenable to anesthesia.

Saturday Lessons in Neurology.

By HAROLD N. MOYER, M. D.
Professor of Nervous and Mental Diseases, Chicago Clinical School

ATHETOSIS.

This patient is thirty-six years of age. As he enters the room you notice that he walks with a decided limp; indeed, his gait suggests hemiplegia, though it is by no means marked. The left arm is held stiffly, the elbow away from the side and the fingers strongly flexed. If we observe him for a few moments we notice certain irregular, or perhaps we had better term them "regular" irregular movements of the hand. and to some extent of the forearm. At times these cease, but if his attention is attracted to the member, the movements immediately begin. They are slow, not painful, and considerable power is exerted. Particularly is this apparent if the movements are resisted. You notice that the fingers are strongly flexed, the thumb being sometimes inside the fingers, but usually outside. The characteristic attitude of the hand is flexion, but we learn from the patient that there is occasional extension of the fingers.

The patient tells that he is a gardener by occupation and that his sickness began two years ago. It was due to a severe poisoning by phytolacca decandra, or poke. This plant is sometimes cooked and eaten, and the immature plants are quite devoid of poisonous properties. If, however, the plants are nearly full grown they show marked toxic power and a dose of one-half ounce has proven fatal of the berries or root. All of these cases are preceded by excessive vomiting, purging, drowsiness, which is succeeded by vertigo, dimness of vision, cold skin, feeble pulse and great prostration, to be followed by convulsions and coma. Within an hour after taking the poke he became unconscious, and when he recovered his senses he was paralyzed upon the left side. He was confined to his bed for five or six months. After getting about he noticed the movements which you now see in the hand and which have continued ever since.

As we examine the hand we notice that it is quite rigidly flexed; fingers in the palm and the wrist upon the forearm. We can forcibly straighten the hand without causing pain and when it reaches full extension, the contracted flexor musces relax and for a few minutes the hand remains quite flexible. Then the contraction begins, the fingers are slowly flexed into the palm and the hand upon the wrist. The muscles upon the affected side are, if anything, larger than upon the sound side and the force that is exerted shows that there is no atrophy of the muscular fibers. Voluntary use of the hand is practically abolished, as the patient cannot straighten the fingers and can only move the forearm to a slight extent, and that with considerable effort.

He tells us that the paralysis was complete upon the left side of the body, the left side of the face, the left arm and leg. Recovery of the leg was much more rapid than with the arm; in fact, there was practically no effective use of the arm, though the leg has been freely useful for purposes of locomotion ever since he got out of bed. The movements affect the foot only to a trifling extent, and do not trouble him excepting when his shoe is removed, when sometimes the toes become strongly flexed. Carefully observing the side of his face, occasional slow, involuntary movements are noted in the muscles of expression.

The disease is called athetosis, meaning without fixed position. It is comparatively a rare condition, though since it was first described by Hammond in 1871 numerous cases have been described. There is still a difference among writers as to the position of athetosis. It occurs in the majority of cases after attacks of hemiplegia and it is closely allied to hemiplegic chorea. The majority of cases so far reported have occurred after paralysis of cerebral origin. Hammond's original case and several since reported show that the symptoms may come on as a primary manifestation, therefore writers divide these cases into those which are primary and those which are secondary. The pathologic conditions are very variable, it being a general belief that any irritation of the motor tract may produce the symp-

toms, but lesions in the neighborhood of the corpus striatum and internal capsules are by far the most frequent.

That it is allied to post-hemiplegic chorea is apparent, but the movements are very different in their character, being slow, strong contractions of the muscles, which only yield to considerable force. In post-hemiplegic chorea the movements are irregular, jerky and of exceedingly brief duration. Hypertrophy of the muscles is more marked in athetosis than in chorea. Gower states that by far the most frequent cerebral lesion to be followed by athetosis is thrombosis; the younger the person the more frequently is this condition developed. The prognosis in athetosis is essentially unfavorable, nothing so far having ever relieved these cases.

An exceedingly interesting feature in this case is the causation. The poke which he ate and which caused such severe toxic symptoms caused the paralysis. It is at this time difficult to say whether it was a thrombosis or hemorrhage, but probably the former. Of late our views as to the relation of hemorrhage and thrombosis have undergone marked alteration. At one time the majority of these cases were supposed to be due to hemorrhage, but at this time hemorrhage is considered to be a very grave accident, and one that is usually followed by death within a comparatively short time. Hemorrhage is usually found in those cases which reach the autopsy table early in the affection. On the contrary, thrombosis is much less grave in its consequences, and, unless very severe and accompanied by extensive softening, does not kill immediately. Just what relation there is between the poke poisoning and the development of the cerebral thrombosis in this case cannot be stated, but the fact that it did cause it can hardly be doubted.

PROGRESSIVE MUSCULAR ATROPHY.

This man, thirty-four years of age, has come under our observation within the last five weeks, he having entered the hospital with a view to obtaining relief from an increasing weakness of all the voluntary muscles. His history prior to the development of this trouble is negative; there is no unfavorable neurotic heredity and he has never had syphilis or any venereal disease. In fact, his health prior to five years ago had been excellent, he having led an active out-of-door life. He is a man of good color and physique and in fair flesh. The weakness of which he complains began five years ago in an impairment of strength of the lower extremities. It was apparent upon both sides of the body and it very slowly increased, until within the last few months it has reached a degree in which it seriously interferes with his occupation. He can walk and stand upon one leg, but he cannot run nor hop. It is with great difficulty that he ascends a flight of stairs.

There is no inco-ordination of the muscular movements; he stands as well with the eyes closed as with them open. As you see, there is no alteration in tactile sensibility, prompt answers being returned to the slightest touches of the brush over the surface of the body. There have been no bladder or visceral disturbances; his appetite and digestion are good. At no time during the progress of the trouble has there been any pain. The knee-jerks are present, but are not marked. In order to elicit them it is necessary to re-enforce them by having the patient close the hands firmly. The cremaster reflex is marked, but the abdominal and other skin reflexes are not exaggerated. While the knee-jerks are diminished the muscular tonus is not so much impaired that we can obtain Frankel's sign, which consists in extending the thigh at right angles to the body and then straightening the leg, or, in other words, placing the leg at right angles to the trunk, fully extended. If this is done with the patient lying upon his back, as we forcibly straighten the leg in this position, you note that the pelvis leaves the table. This symptom is one of the complementary indications of muscular tonus in cases where the knee-jerks are altered. This position of the leg may be assumed by the patient voluntarily, in tabes, in which the knee-jerks are abolished; it has no great value, very little being learned from it more than is obtained from the simple testing of the knee-jerks.

Testing the muscles of this patient, we find that they are all weakened, not only the muscles of the extremities being involved, but we find the muscles of the back, the neck and the arms much reduced in strength. You note that he is a man of good muscular development, large frame, and yet if we forcibly straighten his arm against the contracting biceps it is brought down without much difficulty. The same is true of all the muscular groups which we

can test in this way by overcoming the resistance of the patient. Careful examination of the hand will not show at the first glance marked muscular atrophy, yet upon closer inspection it will be seen that the adductor muscles of the thumb are much atrophied, so that there is a distinct hollow between the metacarpal bones of the thumb and the ring finger. The back of the hand, instead of presenting the usual quadrilateral shape, is distinctly pyramidal, with the narrow border at the wrist and the base corresponding to the metacarpo-phalangeal articulations. The legs likewise show a marked decrease in size. The muscular prominences being diminished, a condition not so marked in the thighs. As we examine the inner and outer profile of the leg, we note that the prominent curves are wanting, the whole leg presenting a smooth outline, cone-shaped, with the base at the knee and the apex at the ankle. The calf in its largest part measures twelve and one-half inches, which is from an inch and a half to two inches smaller than the average calf in a man of his size.

The diagnosis of progressive muscular atrophy in this case is based on the slow progress of the affection, the absence of signs of disease of the nerve centers, freedom from pain, and the absence of anesthesia. It would be difficult in a case of this kind to see whether the anterior horns of the spinal cord are involved or not. If they are, it would have to be grouped among the neurotic forms, but the slow onset of the malady, the absence of all other symptoms excepting the wasting of muscles, would lead one to place it among the progressive muscular distrophies. Clinically, it very closely resembles the progressive neurotic atrophy described by Charcot and Marie. This distinction between the neurotic and the muscular atrophy is, from a practical standpoint, of very little importance, and in doubtful cases, when it is well to be on the safe side, you may simply label the case progressive muscular atrophy.

The treatment of this case will consist in the hypodermic injection of large doses of strychnin. The nitrate will be employed and we will begin with a fifteenth of a grain, increasing the size of the dose somewhat and the frequency of administrations until the full physiological effect of the drug is produced; then the dose will be lessened somewhat, but continued for weeks or even months, until there is a marked improvement in the patient's condition, or it is distinctly apparent that the drug will be of no benefit.

A Case of Fracture of the Shaft of the Radius at the Junction of the Upper and Middle Thirds.

By T. A. Davis, M.D.

Professor of Surgery Chicago Clinical School; Professor of Principles of Surgery, College of Physicians and Surgeons, Medical Department University of Illinois; Attending Surgeon Cook County Hospital and West Side Hospital.

Fracture of the shaft of the radius is rare and therefore a publication of a study of the conditions of any case, and especially with skiagraphic demonstrations, should be appreciated.

Tillman states that fracture of the shaft of the bone is rare; that only four out of one hundred and fifty-five fractures of the radius involved the shaft (according to a tabulation by Falkson).

Again quoting from Tillman: "These fractures arise sometimes from direct and sometimes from indirect violence, e. g., in consequence of a fall upon the hand or from forcible pronation, in wringing clothes, for instance. The symptoms are the least pronounced when the fracture is in the upper third. A displacement of the fragments may be entirely absent. The displacement depends essentially upon the direction in which the violence acts and upon the location of the fracture—that is, upon whether the bone is fractured below or above the insertion of the pronator teres muscle. In the former case there is usually a distinct angular deformity, the angle opening toward the back or the front. If the fracture is above the insertion of the pronator teres muscle the upper fragment is supinated and flexed by the biceps and the supinator brevis muscles, while the lower fragment is pronated by the pronator teres and pronator quadratus, and drawn in the direction of the ulna.

"Crepitus and abnormal mobility are most easily made out by placing the hand upon the site of fracture and rotating the forearm, whereupon the head of the radius does not move unless there is an impacted fracture.

"Active pronation and supination of the

hand are impossible and passive movements very painful. If the lower fragment is displaced the axis of the wrist-joint is correspondingly altered and the head of the ulna is abnormally prominent (Bardeleben). The further down the fracture is located near the wrist the more distinctly visible is the changed axis of the latter.

"The treatment of a fracture of the shaft of the radius consists in the application of a splint of wood or plaster-of-paris, while the forearm is in supination and flexion. The elbow and the wrist should be included in the splint. Bony union usually ensues in three or four weeks. The same precautions are to be observed in treating fractures of the shaft of the radius as in dealing with those of both bones of the forearm, in order that pronation and supination of the hand may not be disturbed."

In my case the patient, the 12-year-old son of a physician, was brought to me five days after having fallen on the ground while playing. He was running, and, stubbing his toe, he fell, striking the ground with the palm (the hand, you will note, then being in forced pronation).

He did not think he was much hurt, and his father, who examined him, did not recognize the fracture.

At my first examination the contour of the forearm was normal, excepting as it approached the wrist, where the styloid process of the ulna was too prominent and the hand carried slightly toward the radial side. The patient could not perform active supination. Passive supination was very slight on account of the pain which it induced, and with the movement I was able to make the head of the radius did not participate. Deep palpation over the upper portion of the forearm elicited considerable tenderness and some induration. I therefore, with the preceding findings, rendered a diagnosis of fracture of the shaft of the radius. I had the doctor get a skiagraph before I treated the case, which was done under general anesthesia (Fig. 1). The skiagraph showed the fracture to be just above the insertion of the pronator radii teres. The upper fragment is drawn up by the biceps and supinator brevis, or it was so displaced by the continuation of the force which caused the fracture. The lower fragment also was displaced upward by the contractions of muscles or was immediately displaced by the

FIG. 1. Skiagraph taken before reduction.

fall. It is also drawn close to the ulna by the pronator quadratus and the pronator radii teres, closing in very considerably upon the interosseous space. The overriding of the fragments is quite apparent and it indicates the amount of shortening of the radial border of the forearm at the same time, causing the prominence of the ulnar styloid process. The line of fracture is transverse, which would suggest that the fracture force was not indirect (as we generally accept the meaning of that term), causing a break in the bone at a distance from where the blow is received. Such a force should produce an exceedingly oblique line of fracture in the shaft of a normal young bone. There certainly was no direct force from the outside. How, then, can we account for the transverse line of fracture? By the muscular twisting force, the palm striking the ground with the pronator radii teres and quadratus strained in action one way and the biceps strained in the opposite direction. The attachment of the teres and biceps are so close together that a fracture from such twisting strain would necessarily be slightly, if at all, oblique.

On the other hand, I am unable to dem-

onstrate that there is not an abnormal fragility of this young patient's bones, and there is something in his history which would tend to support such a theory, viz.: He has always been frail, and two years ago he sustained a fracture of the humerus from a slight fall. I ascribe the fracture to muscular strain, and the flexion and rotary displacement of the proximal fragment, as well as the rotary and inward displacements of the distal portion, to the same cause.

As to the treatment, with a knowledge of the anatomy of the part, the indications are readily understood. It is not so easy, however, to correct the displacement and maintain the parts in a correct position. With traction upon the hand, at the same time performing supination and forcing a finger or thumb into the interosseous space, the lower fragment can be readily placed in good position. Not so easy with the upper fragment. It is so short and so deeply buried with muscles that its manipulation may be quite difficult. In the most favorable cases the passive flexion of the forearm, with circular constriction of the belly of the biceps, will overcome the tendency of the upper fragment to flexion and the supinator brevis will hold it in full supination, so that with the management of the lower fragment described the fractured surfaces are placed in apposition. A loss of supination varying from 8 to 40 degrees was found by Callender in a study of the specimens of this fracture in the London museums (Am. Text-Book Surgery).

In my case the displacement was difficult to overcome on account of the plastic product, which had formed during the seven days. It took me fully fifteen minutes to get the upper fragment out of its new bed. I did this with the thumb and fingers of the right hand, grasping the fragment, pushing it backward and forward, until it seemed quite loose. Then I extended the hand and supinated it with my right hand, while with my left thumb and index finger I widened the interosseous space.

I then ceased the traction upon the hand and tried pronating and supinating it while my left thumb pressed upon the head of the radius. The rotation of the head of the radius insured contact and I dressed the forearm in plaster-of-paris, as before described. The skiagraph No. 2 shows the fractured member the day following the replacement, taken in the plaster cast (Fig. 2). The position is very good. All of the indications for treatment were practically met. The preservation of the interosseous space. No rotary displacement. No flexion of distal fragment and with practically no displacement whatever.

Fig. 2. Skiagraph taken after reduction in the plaster cast.

The cast was worn for three weeks and on its removal immediate function was very good. Now the forearm is practically well.

The coroner's inquest over the body of Mrs. Flanders, the victim of divine healing or Dowieism, held in Chicago August 8, brought in a verdict finding Mrs. Bratz guilty of criminal negligence and malpractice, and ordered that she be held to the grand jury for action. "Elder" De Witt Holmes, a member of Dowie's Zion, was also held. Pending the meeting of the grand jury, both were committed to jail, and after some hours were released on bail. The investigation developed the fact that both the above parties did enough to prove that they were practicing medicine, and the Illinois State Board of Health will give suit against Mrs. Bratz for practicing without a license.—Jour. A. M. A.

THE MEDICAL LIBRARY.

Diseases of the Nose and Throat.

By D. Braden Kyle, M. D., Clinical Professor of Laryngology and Rhinology, Jefferson Medical College, Philadelphia; Consulting Laryngologist, Rhinologist and Otologist, St. Agnes' Hospital. Handsome octavo volume of about 646 pages, with 175 illustrations and 23 lithographic plates. Price, cloth, $4.00 net; half morocco, $5.00 net. Published by W. B. Saunders, Philadelphia, Pa.

No book published during the year have we awaited with more anxious anticipations than the above volume. Hence we are pleased to say that a review of the volume before us is in every way confirmatory of our hopes.

The author has written this book for the student and general practitioner rather than for the specialist, and it is consequently devoid of the many technical details which may seem of considerable importance to the specialist. In arrangement it is rather unusual, inasmuch as it follows a pathological rather than an anatomical formula. The propriety of such a digression might be questioned by some accustomed to the more usual method. However, the very complete and carefully compiled index which appends the volume precludes the possible objection to its arrangement in the discussion of subjects.

The first section is devoted to a well illustrated description of the anatomy of the nose and its cavities. We are particularly impressed with the importance which the author gives both to the anatomical relations and the diseases as well of the accessory sinuses of the nose. Unfortunately, it is a subject of vast importance, upon which there is certainly a deplorable amount of ignorance or misinformation.

The chapter on General Consideration of Mucus Membranes is one of the best in the book; indeed, it is a most excellent condensation of the subject, and while we cannot entirely agree in detail with the author's ideas of nasal bacteria, yet it is merely a difference for discussion rather than of practical importance to the physician called upon to treat a case of rhinitis.

In the chapter on Acute Inflammatory Diseases we find discussed the various forms of acute rhinitis. The grouping of these conditions is excellent, giving the reader a clear conception of a distinct condition, its etiology, pathology, symptoms and treatment. We note the author does not recognize as a separate disease the so-called purulent rhinitis of childhood, except that of the new-born, yet in his chapter on atrophic rhinitis he says: "The variety of atrophic rhinitis following simple chronic purulent rhinitis, which undoubtedly produces atrophic processes," etc., thus admitting such a condition does exist. We anticipate the second edition will give more attention to this condition, which certainly is not a rare occurrence in the practice of the country physician, and which is certainly an important element in the etiology of atrophic rhinitis.

The chapters on Inflammatory Diseases of the Anterior Nasal Cavities and that on Neuroses are both of more than ordinary value and merit. We have not seen a more comprehensive yet practical exposition of the subjest of nasal neuroses than is given by Dr. Kyle in the latter chapter.

The author's treatment of Neoplasms of the Respiratory Tract is alone worth the price of the book to any practitioner. His differential diagnosis in parallel columns is in every way a most commendable and convenient plan, and one which enables the reader to grasp the subject under investigation quickly and clearly.

The omission of any discussion of the condition of soft hypertrophies of the septum is insignificant in the light of past literature, but the subject has become of such importance to modern rhinologists that it should be brought to the attention of the general practitioner. The author has well sustained his reputation as a diagnostician and operator in the chapter on Antral Diseases. Upon it we cannot offer a criticism or a suggestion except in praise. The remaining chapters are devoted to diseases of the Pharynx and Larynx. The same attention to classification of the various subjects and symptoms is observed, as in the preceding chapters, and the same comment will apply to them.

The index covers over thirty pages and is the most complete we have ever seen for a volume of its nature and size.

The publishers have added very mate-

rially to the attractiveness and value of the work by the unusual excellence of the presswork and illustration, and by the like important fact that the price is so moderate.

The American Pocket Medical Dictionary.

Containing the pronunciation and definition of over 26,000 words and phrases, and a large number of useful tables. Edited by W. A. Newman Dorland, M. D., Assistant Demonstrator of Obstetrics, University of Pennsylvania; Fellow of the American Academy of Medicine; 518 pages; handsomely bound in full feather, limp, with gilt edges and patent index. Price, $1.25 net. Published by W. B. Saunders, Philadelphia, Pa.

The publishers and the author are both to be congratulated that another edition of this valuable little volume should be called for so soon. This fact alone speaks in more convincing words of the real merit of the book as a reference work than a whole page of review might do. There is nothing in the book to criticise. It is all and just what it pretends to be—a practical, exact pocket medical dictionary—a copy of which should be in every medical library, whether it consists of ten or ten thousand volumes.

The Hygiene of Transmissible Diseases.

By A. C. Abbott, M. D., Professor of Hygiene in the University of Pennsylvania; Director of the Laboratory of Hygiene. Octavo volume of 325 pages, containing a number of charts and maps, and numerous illustrations. Price, $2.00 net. Published by W. B. Saunders, 925 Walnut street, Philadelphia.

The importance which sanitation in its various aspects has recently attained is sufficient reason to presume that a demand for such a work existed. The general waking up of both health boards and individuals is unprecedented in the modern history of hygiene. We have now reached a period in scientific investigation, when enough is recognized as established fact that sanitation and hygiene must be recognized as well-defined branches of medicine, worthy of and demanding a place in the curriculum of every medical college. Then, too, it is imperative that the physician who graduated some years ago should have an intelligent idea of the advancement which has been made in the line of preventive medicine.

The medicine of to-day tends more and more in the direction of prevention, and if the physician purposes keeping abreast of the times, it is absolutely imperative that he be informed as to the advances made along these lines.

If we realize that, even notwithstanding the greatly reduced mortality from preventable diseases during late years, there is still much chance for improvement in this particular, we will possibly more fully appreciate the necessity calling out the volume before us.

The author devotes the first chapter to the Predisposing and Exciting Causes of Disease, in which age, sex, race, occupation, etc., are considered. The next section deals with the Causation, Modes of Dissemination and Prevention of Special Diseases.

The third section is devoted to Prophylaxis in General against Infectious Diseases, closing with a chapter on Precautions in the Management of Communicable Diseases.

Pelvic Inflammations.

By W. R. Pryor, M. D., Professor of Gynecology in the New York Polyclinic. 12mo volume of about 250 pages, 110 illustrations. Price, $2.00 net. Published by W. B. Saunders, Philadelphia.

The author makes the statement that "there is the utmost confusion in the profession regarding the methods of treating pelvic inflammations." While this may in a measure be true, nevertheless it must be admitted that there are men of ability outside of New York who are entitled to their opinions. He proceeds in his volume to bring order and intelligence out of this chaos in the following named chapters: I. Endometritis; II. Pelvic Inflammations, in which the author very wisely makes prominent the necessity for careful differential diagnosis of these diseases and cautions against the pernicious habit of constantly cutting in every case. He urges the same considerations for the treatment of pelvic inflammatory lesions as obtain elsewhere in the body by progressive surgeons; III. Salpingitis; IV. Pelvic Peritonitis; V. Tubercular Pelvic Peritonitis;

VI. Inflammatory Diseases of the Ovaries; VII. Adherent Retropositions; VIII. Suppurations; IX. Exploratory Section; X. Conservative Treatment; XI. Vaginal Ablation; XII. Hysterectomy; XIII. Accidents and Complications; XIV. Salt Solution Injection; XV. Instruments; XVI. Index.

The author of this volume has throughout mantained the necessity for a cautious conservatism, yet when an operation was deemed advisable do it promptly and do it thoroughly, seems to be his motto. The work is to be especially commended because of its personality and individuality, being devoid of the wearisome rehashing of current literature and opinion, as is usually found in recent medical literature.

CHICAGO CLINICAL SCHOOL.

The following operations were performed during the month of July at the Chicago Clinical School, before the post-graduate students in attendance. Compiled by Senior Interne Dr. Witherspoon:

Exophthalmic Goitre.
Hysterectomy.
Chololithiasis.
Hydrocele.
Craneotomy (2).
Enucleation.
Pelvic Abscess (2).
Gonorrheal Arthritis.
Resection of Knee-joint.
Perineorraphy (2).
Noma.
Skin Grafting (2).
Trachelorrhaphy (2).
Sarcoma of Liver.
Amputation of Thigh.
Talipes—Phelp's Operation.
Gastroenterostomy.
Atresia of Vagina.
Bullet Wound of Hip.
Salpingectomy (2).
Extrophy of Bladder.
Castration.
Fistula in Ano.
Hemorrhoids (2).
Ovariotomy (2).
Recto-Vaginal Fistula.
Double Iridectomy.
Resection of Intestine—1 Carcinoma, 2 Tuberculosis.
Deviated Septum (6).
Tonsillotomy (10).
Foreign Body in Eye (4).
Adenoids (12).
Amputation of Breast.
Strangulated Hernia—1 Femoral, 2 Inguinal.
Curettement (5).
Ectopic Gestation—Laparotomy.
Appendectomy (2).
Fracture of Spine.
Fracture of Pelvis.
Fracture of Humerus—Compound.
Fracture of Tibia.
Fracture of Ulna.
Tubercular Adenoids (3).
Harelip (2).
Varicocele (2).
Double Mastitis.

The Hypodermic Use of Guaiacol in Acute Pulmonary Tuberculosis.

Coghill has obtained encouraging results in acute pulmonary tuberculosis by the subcutaneous administration of guaiacol. In many of the cases in which the treatment was carried out, the injections were persevered in for some time before any impression was produced on the temperature. The fall of temperature was always comparatively gradual. The subsidence of the fever was invariably marked by increased appetite and weight, and diminished cough and expectoration. A moderate warm perspiration following the injection at a variable interval takes the place of the regular hectic night sweats. In beginning the treatment, the minimum dose is given before the diurnal rise of temperature has passed above normal, and if the temperature is not reduced in a few days the dose is increased drop by drop to five or even seven minims, which rarely requires to be exceeded. When the reactive sweating is excessive, two small injections are given daily. The buttock is the most favorable region for the injection, which should be made deep and at a right angle to the surface. In every case, sooner or later, the guaiacol is tasted by the patient a few minutes after the injection.

The Chicago Clinic.

A HIGH-GRADE MONTHLY PERIODICAL DEVOTED TO THE MEDICAL PROFESSION.

J. HOMER COULTER, M. D., Editor.

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EDITORIAL AND BUSINESS OFFICES:
819 W. Harrison St., Chicago.

THE MISSISSIPPI VALLEY MEDICAL.

The coming meeting of this association promises to be the most important one in the history of its existence. Every indications points to an unusualy large attendance. So much is being done by the various committees, under the direction of Dr. Moyer, to insure its success, that failure would seem almost impossible. The program is completed and is now in the hands of the printer, and we can assure our readers that it will be a pleasant surprise, and for the Chicago contingent we feel warranted in promising that its indications will be carried out to the fullest extent.

One of the special features of the occasion will be the series of clinics to be held during the week preceding the meeting and the two weeks following. The best and most able clinicians, the best clinical material and the best hospitals afforded by Chicago will be thrown open to all visitors for the period mentioned. These have been arranged with a view to the convenience of visitors, so that any department in medicine or surgery could be followed out at the various colleges, laboratories and hospitals. A detailed arrangement of these clinics will be found on the program referred to above.

There will be a flat one-fare round-trip rate, without certificates, on account of the autumn festival to be held in Chicago.

This is the lowest railroad rate ever obtained for a meeting.

It is especially hoped that the members and others attending the meeting will bring their wives along. Not only will the city be in gala attire in honor of the President and many other noted guests, but the committee of ladies appointed by Chairman Moyer are already making extensive arrangements for the entertainment of the lady visitors during the days of the meeting.

The address in medicine will be delivered by Dr. J. A. Witherspoon of Nashville, and that in surgery by Dr. H. H. Mudd of St. Louis. The places of meeting are centrally located, and in every way convenient for the purpose. The spaces in the exhibit hall are practically all contracted for, and every indication is favorable for a grand meeting. We shall be disappointed with an attendance of less than one thousand.

THE PEOPLE vs. DOCTORS.

It may be strange to some why it is that the doctor is so universally criticised the moment any legislation is enacted concerning medical matters. At once the unanimous wail goes up that such legislation is class or selfish in its purport, no matter whether such proposition has for its object the protection of the public from the dangerous errors of ignorance and superstition or simply the uplifting and mainteance of a high professional standing in the guild itself.

The lawyer who does crooked work or tends to shyster tactics acts with suicidal results. Disbarment is constantly a Damoclean sword compelling him to be reasonably decent. All sorts of mercantile and manufacturing interests are combining into trusts for mutual protection, such organizations being legally protected in their acquired rights.

Now it cannot be that the physicians are acting upon a selfish impulse in urging upon legislators the enactment of stringent practice laws. Such an argument has already grown threadbare and seems to have lost its force. They have lavished a generous philanthropy so freely and so long upon an inappreciative public that to-day a move made for the sake of that public is sneered at as a selfish scheme for self-protection, as though the physicians who are urging legislation were in need of protection. The men who would be most likely selfish in the matter cannot afford to lose time, money or prestige in the furtherance of legislation. Hence it devolves necessarily upon those who have at heart the best interests of humanity, and the establishment of medicine on the highest possible plain.

As a remedy for this illogical opposition on the part of the laity to the enactment of stringent sanitary and practice laws, someone has suggested that the bars be thrown down entirely, let everyone who cares to practice what they choose, but let competent and educated men make their practice purely a business matter on a financial basis, get out of it what you can, either by your sagacity or ability, or both, and when the dear public had had a few years' such experience they would then realize the motives which prompt honorable physicians in urging medical legislation to-day, and they would doubtless be ready to enact statutes for their protection against incompetency and quackery.

SUMMER DIARRHEA.

The present month is doubtless the most serious one of the year for the babies. The treatment of the condition is, by almost universal consent at present, confined to the careful regulation of diet and to get rid of all the products of fermentation, whether this fermentation be the result of some acute condition in the bowel itself tablished rules regarding infant feeding; which precludes the possibility of the normal digestion and assimilation taking place, or some condition in the food itself or in its method of preparation. It is not necessary in this connection that the food be an artificial one; the above conditions may quite as positively exist in those cases where the child is subsisting entirely upon the breast of its mother.

There are few if any conditions upon which the profession is so unanimously agreed as upon the general treatment of the conditions; few conditions have been studied with more careful, scientific and searching cautiousness; few if any conditions are better understood and appreciated by the laity, and yet notwithstanding all these facts the proportionate mortality of the disease does remain alarmingly high.

It can be seen, however, in a measure, in extenuation or palliation of the existence of such facts of mortality, that the investigations of the health departments of several of the larger cities, notably New York and Chicago, show that the largest percentage of these deaths is among the tenement settlements and among the most ignorant classes, as might well be expected. To these people prophylaxis is an unknown quantity, either because they have not sufficient intelligence to appropriate matters of general knowledge and the gravity of those cases, or else the family physician has not impressed upon them in sufficiently specific terms the necessary rules and directions for their preservation.

It is therefore the prophylactic and not the curative treatment which will tell its results in the mortuary reports, and particularly is this applicable to the cases of those physicians whose practices are to some extent among the class of patients above referred to.

Anent this proposition Dr. L. Emmett Holt, in a recent article in the "Therapeutic Gazette" on the subject, closes as follows:

1. A proper application of the well-es- for it is chiefly infants who have previously

suffered from digestive and nutritive disturbances arising from a violation of these rules which furnish us with our severe and most of our fatal cases.

2. Careful inspection of milk in cities and the exclusion of that the temperature of which when received is 60 degrees Fahrenheit or above; and close supervision of those who sell milk than is now employed.

3. The adoption of means by which the poor in cities may be furnished during the summer with milk sterilized under competent supervision, either free or at a nominal cost.

4. The general employment of Pasteurized or sterilized milk as an infant food during summer; Pasteurized, among the better classes, where the procedure can be more intelligently done and ice is abundant; but sterilized among the poor and in tenements, or wherever no ice is to be had.

5. The avoidance of all solid food during the summer in children who are under eighteen months old.

6. The prompt and radical treatment of all the milder forms of indigestion and diarrhea during the hot season.

In our management of infants suffering from intestinal disorders, the great importance of the adoption of energetic measures at the outset cannot be too strongly emphasized. Doing the proper thing in the first twelve hours of an attack is vastly more valuable than correct treatment during the whole of the succeeding week.

THE DEMENTIA OF AGE.

An expert who was called to give evidence in a will case made practically the following points in his testimony concerning this frequent condition in the aged:

Senile dementia is the natural condition of the mind in extreme age. The brain grows rapidly up to the age of seven, slowly up to twenty, more slowly up to forty, when it reaches its maximum, and then begins to slowly decrease, losing about one ounce in weight during each succeeding decade. Dementia is a necessary result of reduction of brain substance when it reaches a certain degree. The rule is that all very old people show senile dementia. It is never a question of the existence of it, but of the degree of it. Senile dementia commences at sixty, the period which is regarded as the beginning of age. Sometimes it is anticipated, sometimes deferred. If anticipated, it is because age is precipitated by bad habits, as by alcoholism, which is the most frequent cause of precocious senescence. Any wasting diseases may also precipitate changes of age. Tuberculosis, pneumonia, cancer, syphilis, dyspepsia, are prominent and frequent causes of premature senescence. Protracted grief, financial losses, depressing mental emotions, worry, act in the same way.

On the other hand, the changes of age are often deferred. A sound constitution, general good health, success, equanimity of temperament, postpone the retrograde changes. The cultivation of the brain saves it. There are notable examples of intellectual vigor in advanced life, but they are exceptions and not the rule. The rule is that the brain declines with the rest of the body. All the tissues of the body undergo gradual decadence in age. And just as the bones and muscles, so does the brain waste as years advance. Instances are not wanting of so-called infantile precocity, but they are exceptions, and the instances of senile vigor fall under the same head. They attract attention in both cases, because they are exceptions. The wisdom usually ascribed to age is partly due to the lessons of experience, no doubt, but chiefly to the suppression or rather the decay of the emotions which so often warp the judgment. The mind becomes enfeebled with age because the whole body suffers from lack of nutrition, and the mind is the product of the whole body. The failing nutrition is partly due to defective action of the

heart, and partly to changes in the blood vessel walls which materially assist the heart in feeding the brain as well as the rest of the body. The heart muscle grows feeble. The pulse is retarded and unequal. The walls of the blood vessels suffer conversion into fat and chalk, lose their resiliency, their rebound upon the projected column of blood from the heart, and thus induce the failure of nutrition. It is this rebound which feeds the heart itself, through the arteries which run into the substance of the heart. For the heart does not feed itself directly by its own force. So soon as the vessel walls lose their elasticity, all the organs of the body begin to suffer nutritive changes.

A defective blood supply to the brain is felt at once. If the blood is all suddenly shut off, as occurs in epilepsy, the individual falls suddenly unconscious, pitching headlong in a direction as determined by gravity. If the blood supply is only partially shut off the texture of the brain suffers, and the faculties of the mind begin to show it at once. Age is colder in its sensations, less excitable in its emotions, more circumspect in its judgment, less capable of receiving new impressions. When Harvey announced the discovery of the circulation of the blood, no physician over forty believed it. And Harvey himself in his age refused to believe the discovery of the lacteals by Asellius, one of his contemporaries.

According as the brain suffers irritative or obtunding changes will the mind show signs of excitement or melancholia. The latter is the most frequent and is always the last stage. A petty egotism is a frequent forerunner of it, a hypochondriasis as to health and wealth. An old man is often preternaturally concerned about his health, sending for a physician for a trivial cause, or he is so fortified in his egotism that he will brook no suggestions from anyone. He easily gets the delusion of poverty, walks the floor all night with visions of the almshouse, or conceals his valuables, forgets where, and makes false accusations of theft. The idea of having been robbed is a constant and very characteristic feature of age. Avarice belongs to age. Falstaff says "a man may as well try to separate age and covetousness as young limbs and lechery," meaning that they are naturally connected. Negligence of person and attire, carelessness of the proprieties and decencies of life are factors of senile dementia. An old man forgets that he has had his meals, demands them immediately after having taken them, and believes that the statements that he has had them are attempts to defraud him, or are evidences of neglect. Suspicion and distrust characterize senile dementia as very prominent features. Old people are often the victims of "undue influence" and unfounded prejudice. Beck relates the case of an old man who so hated one daughter that he compelled her to write down her thoughts.

The tendency to sleep or sopor steals upon us with advancing years. The sopor deepens into stupor, from which the individual must be aroused by agitation of his whole body for a rational or half intelligible response. The melancholia of age is distinguished, as is all melancholia, by a desire to be let alone, by aversion to society, by reticence. All that is asked is silence which shall not disturb the voice of memory.

But during the irritative stage there is often an unusual loquacity. We speak of the garrulousness of age. The favorite topics of it are the degeneracy of the present age, the corruption of politics, the degradation of morals, all in contrast to the purity and superiority of old times. During this irritative stage there are also sometimes developed those disturbances in the sexual sphere which lead to ill-timed matrimonies, or even to outrages against public morals.. Sleeplessness, restlessness, the necessity of constant occupation, and the futility of every occupation to secure con-

tent, often precede the more pronounced phenomena of age. During this period of irritation, the individual is easily aroused to anger, which is, however, only transitory. Age is impatient and intolerant of contradiction, and is sometimes incapable of entertainment. The irritative phenomena gradually fade into indifference and apathy, and it may be said that, unless precipitated by some serious disease, as by apoplexy, pneumonia, which are usually the end catastrophes, the changes of age gradually, almost insensibly, creep on, as twilight deepens into night.

The changes which occur in the special senses lead to illusions and hallucinations, which the alterations in the brain cells deepen into veritable delusions. By delusions is generally meant self-deception. The strongest minds suffer occasional illusions and hallucinations, but they are recognized as such, while delusions are not recognized as phantasies, but are believed to be facts. Vertigo is frequent in age, the result partly of disturbances of sight, but chiefly from defective blood supply to the brain. The special senses are blunted and lost in the following order: First, touch, then sight, then hearing, smell and taste. Taste is the sense last lost. Among the faculties of the mind the first lost is memory. It shows itself first in loss of memory of names. It is considered lost to the last degree when the individual can no longer remember his own name. Before this loss reminiscences of early life are frequent, and are often painful in their monotonous recurrence.

Gross physical lesions are found in the brain of age. The bones of the skull become thinner. The outer and middle tables are absorbed in places and only the inner table is left. The skull cap is thus more than usually translucent. The membranes of the brain adhere to the skull and may be only separated with a knife. They show thickenings and opacities. Beneath them is a layer of fluid, much increased. It spurts out sometimes when the membranes are incised. The brain itself, it is plain to see, is shrunken. It is also harder than in maturity. Its convolutions gape apart when the pia mater is stripped. The brain cells are converted, some of them, into fatty matter, they are loaded with pigment, and the inert connective tissue of the brain is everywhere increased. Hence the changes of senile dementia which it would be as absurd to deny as to refuse to believe a difference of mentality from the brain of infancy. Between 80 and 90 there is more or less senile dementia as a rule. It is only a question of degree. J. E. B.

THE ANESTHETIST.

The anesthetist is fast becoming established as one of the legitimate specialists in the practice of medicine. Until a recent date but little had been directly written upon the subject, and it must be admitted that even yet very few medical colleges give the subject the attention its importance rightfully demands. Admitting that death is likely or even possible to occur from anesthesia, it becomes not only incumbent upon the operator to have the necessary precautionary restoratives, but likewise quite as important that the anesthesia be in the hands of one more or less expert and experienced in its administration.

In cities the securing of one especially trained in the art and practice of anesthesia is not difficult, but in the smaller towns it is quite a different proposition. The idea that anyone can give the anesthetic is fortunately fast becoming obsolete, and we believe that if the single matter of recompense for such service was satisfactorily adjusted, and if surgeons both great and small recognized the fact that such ability is valuable and should be paid for, then more competent men would take up the careful study of that line, because it offered remunerative encouragement.

Dr. D. H. Galloway of Chicago, in a recent article on the subject, has this to say, all of which is thoroughly indorsed:

"Among doctors there is still some doubt of the necessity for skilled anesthetizers. There seems to be no place provided by medical ethics for the anesthetizer. At operations in the past this position has usually been assigned to the least favored of those present or to the one considered the least useful to, or most in the way of, the surgeon. Then, too, it was not thought necessary to pay the anesthetizer anything; the surgeon took whatever fee was paid, considering that the privilege of assisting him and seeing how he did his work was ample reward for all the necessary assistants. In order to share in this benefit, the anesthetizer usually devoted more attention to the operation than he did to the patient. The student who cared to learn to operate—and what one did not?—avoided this assignment whenever possible. As accidents multiplied there came to be a feeling among some operators that perhaps a skilled man in this place might be an advantage. Then it became a positive disadvantage to a young man to get a reputation for skillful administration of anesthetics, for he was called upon oftener, his opportunities for learning surgery were lessened, and still no one thought of offering him adequate pay for the time and skill required.

"While this state of affairs prevails there is no inducement for anyone to qualify himself for the position, which brings neither remuneration, reputation nor respect. I am glad to say that I believe this condition is destined to undergo a radical change, for many surgeons are now awaking to the necessity of skill in this as well as in other departments of medicine, and when there is sufficient demand the necessary skill will be forthcoming.

"From the standpoint of the operator the necessity for trustworthy anesthetizers may be summed up as follows:

"1. No man can do two things at once so well as he can do either of them by itself. A surgeon cannot do his most skillful operating while devoting half his attention to the anesthetic.

"2. The operator is frequently more concerned about the result of the anesthetizer's work than he is about the results of his own work.

"3. An operation may be practically devoid of danger, while an anesthetic is never administered without jeopardizing the life of the patient.

"4. In many cases more skill is required to administer the anesthetic than is required to perform the operation.

"5. Death may occur from the anesthetic in the hands of the most skillful anesthetizer, but in the great majority of deaths which have occurred the anesthetic was in the hands of unskilled anesthetizers.

"When all these things are taken into consideration, there would seem to be more reason for a specialty in anesthetics than in many other branches of medicine which are now monopolized by specialists."

ABSTRACT.

Liquid Air: Its Application in Medicine and Surgery.

Dr. A. C. White, in the "Medical Record," says: The extreme cold of liquid air is 312 degrees Fahrenheit below zero. It will not kill the germs of typhoid, anthrax or diphtheria. If a spray of liquid air be applied to the skin, the part at once becomes anemic, perfectly white and colorless; it completely anesthetizes the part without freezing it solid, if applied for only a few seconds; there is absence of hemorrhage during operation, enabling the operator to apply a dressing before bleeding sets in, the dressing then being sufficient to stop any oozing. It is better to apply the liquid air intermittently while the operator is working than to try to freeze the part so that it will remain senseless for any length of time. Nothing else will so quickly and with so little pain clear up the edges and stimulate the granulations of varicose ulcers as liquid air, properly applied; the applications should not be so frequent as to break down the new granulations; one application to a chancroid suffices. It is of special service in opening abscesses, bubo and carbuncle, and in the early stage one thorough freezing will abort them. In herpes zoster, sciatica, intercostal neuralgia, permanent relief resulted by applying the liquid to the spinal end of the affected nerve. Brilliant results were obtained in a case of lupus erythematosa. When it is desired to remove some tissue, as a navus or wart, a cotton swab dipped in the liquid is applied to the part, and destruction of the part results. There is reason to hope that liquid air will prove to be a therapeutic agent which will remove many obstinate superficial lesions of the body.

The Treatment of Goiter with Thyroid Extract.

Dr. Kennedy, in the "New England Monthly," reports the histories of five cases, and comments thus:

I have the pleasure of reporting that I have succeeded in entirely curing two cases of goiter and in markedly relieving four others by the use of thyroid extract.

All of my cases were uncomplicated, there being no tachycardia or exophthalmos in any case. In fact, they were ideal cases for experimental study. In my experience thyroid extract is apparently not of service in cystic degeneration of the gland. In that condition the mercurial is more efficient. I do not believe that any cystic goiter can be entirely cured by the use of thyroid extract alone. I also have found it useless to depend upon the internal administration of iodides.

It is my opinion that the only remedies of value are thyroid extract and red iodide of mercury ointment, and with these results were always apparent in a few weeks.

Successful Operative Treatment of Case of Otitic Purulent Meningitis—Lucae.

This author has reported the case of a boy, fourteen years old, who at the age of four suffered with a discharge from the right ear, possibly as a complication of an attack of measles. The ear had thereafter suppurated with periodic intermissions. The boy had complained for a week of pain behind the right ear, and on examination the mastoid process, particularly toward its apex, was found sensitive, though not swollen. The auditory canal was wide and contained purulent fetid secretion in moderate amount. At its depth it was obstructed by large granulations, projecting from its roof, and almost entirely occupying its lumen. Hearing was impaired on the right, the temperature was slightly elevated and the pulse accelerated, but the ophthalmoscope revealed no abnormality. A day later the patient could not sleep on account of headache, and the neck began to be stiff, while the temperature rose a little more, and the frequency of the pulse increased. In view of the gravity of the symptoms, and the probability that a purulent leptomeningitis had set in, the mastoid process was trephined, and pus reached at a considerable depth, together with granulations and cholesteatoma masses. The exposed dura appeared necrotic and, on the introduction of a sound, pus escaped by its side. An incision into the cerebral substance was unattended with the escape of further pus. The exposed cavity was carefully cleaned. The stiffness of the neck continued for some time, but the wound

progressed favorably. About two weeks after the operation it was noticed that the hearing of the left ear was also greatly impaired, but this subsequently returned to normal, and in a short while the wound had entirely healed. It is believed that there existed a basilar meningitis limited to the right temporal lobe. The appearance of deafness in the left ear is attributed to hyperemia in the labarynth resulting from transmission of irritation by continuity. Cerebral deafness of cortical origin is thought to be exceedingly rare, as each auditory nerve has bilateral representation, and the hearing function of one hemisphere, when lost, is readily taken up by the opposite hemisphere.—J. A. M. A.

Rectal Injections of Saline Solutions in Hemorrhage, Shock and Infection.

Lepine closes a thesis on this subject with the following conclusions: There are two classes of phenomena dependent upon such injections. The first are physical or chemical, and correspond to those incident to blood transfusion, or the transfusion of artificial serum. The second are purely physiological and are not clearly understood. Intravenous and subcutaneous injections are not absolutely free of danger, and are somewhat difficult of application. Absorption of the saline solutions by the rectal mucous membrane is as easy and rapid as that which takes place when the solutions are injected beneath the skin. The therapeutic effect of the rectal injections is precisely the same as that of subcutaneous injections. The strength of the solution varies according to the indications.—Therap. Gazette.

Suggestion in Medicine.

Dr. H. O. Wells, in a recent communication on this subject, makes the following very pertinent and practical points:

If every physician would pay more attention to suggestion, suggestive therapeutics, hypnotism, hypnotic therapeutics, or call it what you will, there would be less room for Christian science, "magnetic healers," faith curists, and various other fads. It all comes under the head of hypnotism, or, more properly speaking, suggestive therapeutics.

I believe this science should be taught in all the medical colleges. Some of our post-graduate schools are beginning to recognize its utility, and have established a chair for teaching this science. Every physician should either read some good works on this subject or take a post-graduate course where it is taught.

I have found it of wonderful benefit to me in treating some nervous diseases, and especially so in giving treatment for the morphine or opium habit.

The influence of the subjective mind is undoubtedly a great factor in treating any of the habits.

I have never tried to cure a patient of the morphine habit without drugs, but I am satisfied that in some cases it can be done.

Rectal Irrigation in Diseases Among Children.

Evidently rectal irrigation has proven a successful means of giving relief in the field of its fitness. It can be used with either hot or cold water, medicated with mild and inoffensive antiseptics, such as boric acid, peppermint, soda bicarbonate, quinine and chammomile, or with astringents and alteratives, as nitrate of silver in weak solution, tannin or sulphate of copper. Perhaps the most valuable menstruum for rectal irrigation is the decinormal salt solution, containing one drachm of sodium chloride to two pints of boiled water, employed at about a temperature of 105 degrees to 112 degrees Fahrenheit. A fountain syringe is, perhaps, the readiest apparatus for general use (combined with a soft rubber catheter). The secret of this is to have the pelvis of the patient elevated to the highest angle possible, when the tube can be introduced the whole length, even in infants, sometimes dropping into place without the slightest force being used.

It is in certain disturbances peculiar to children that rectal irrigation as thus presented is most happily adopted. In convulsions it affords relief most rapidly, the child often falling asleep before the irrigation is completed. It is more specially prepared than the hot bath and will clean out the lower intestine at the same time it exerts its sedative effect. In collapse from cholera infantum the hot rectal irrigation to the extent of one or two quarts of decinormal salt solution will restore the peripheral circulation and relieve renal suppression, besides washing out all decom-

posed intestinal detritus. In acute dysentery it keeps the mucous membrane clean, relieves pain and prepares the way for the local use of bismuth or quinine with rapid success. In ordinary attacks of severe intestinal colic from acute or chronic intestinal indigestion, it acts with magic promptness, and even in shock from hemorrhage it will revive the patient until intravenous infusion can be used. The great advantages of the hot salt irrigation may be considered to be its inoffensiveness toward the mucous epithelium, causing no irritation or denudation of the mucous membrane, and the readiness with which it seems to be absorbed into the capillary blood vessels, without disturbing the relations of the red blood corpuscles. In this latter manner it refills the partially emptied blood vessels, consequently restoring the normal blood pressure. In summer diarrhea, with high temperature, cold rectal irrigation, with the decinormal salt solution at about 80 degrees Fahrenheit to 85 degrees Fahrenheit, will reduce the body temperature decidedly.

Once or twice daily is often enough for their employment, and frequently only one or two irrigations are sufficient to effect a cure.—Rich. Jour. of Prac.

The Virchow Laboratory.

According to the "British Medical Journal," on June 27, in the presence of a number of officials, academic and scientific notabilities, Professor Virchow formally opened the new pathological museum which bears his name, and which has been built under his superintendence. It has cost about 560,000 marks, and contains a collection of more than 20,000 specimens, collected almost wholly by Professor Virchow himself, and representing the history of pathology during the past half century. The Professor delivered a speech in which he pointed out that while foreign countries, especially England, had long preceded Germany in anatomical researches, the Fatherland could now rival them on that ground.

The Uterus.

A. Goldspohn says that vagino-fixation, ventro-fixation and ventro-suspension of the uterus should be avoided in cases that retain any capacity for conception; they effect at best a substitution of one abnormal condition for another; the essential features in the technique of these operations that give them any stability in good results are antagonistic to the interests of the uterus in gestation and labor. The round ligaments are the only normal structures that keep pace with the uterus in its physiologic changes and migrations; they grow with it during gestation and participate with it in involution after parturition. The best results, therefore, are obtained from shortening these ligaments by way of their natural channels—the inguinal canals; the ligaments are not distorted and no sutures of any kind are needed within the peritoneal cavity, as in shortening them by any other possible route. This procedure, which resembles that of Bassini for hernia more than does the operation introduced by Alexander, is the only operation that has been proven to stand the crucial test of pregnancy and labor.—Jour. Amer. Med. Asso.

Retention of Urine in Enlarged Prostate.

Where retention of urine depends upon the presence of an enlarged prostate it will occur in one of two forms, viz.: (1) acute complete retention; (2) chronic incomplete retention.

In the first variety the retention occurs suddenly, and is complete—no urine being voided. The patient is seized with the attack in the midst of apparently perfect health, after exposure to cold or damp; or perhaps after excessive drinking of gin or whisky.

Examination of the rectum will show in all instances marked enlargement of the prostate, but the gland will feel soft, as if very considerably congested. In fact, acute complete retention occurs most frequently in those cases where the hypertrophy is of the glandular or soft variety, such a prostate being especially prone to congestion, as a result of exposure to cold, intemperance or constipation.

In the second form, that of chronic incomplete retention, the retention does not occur suddenly nor is it complete, the patient being able to pass some little urine, but in small quantities at frequent intervals.

The causes operating to bring about chronic retention are (1) gradually increasing obstruction to flow of urine produced by growth of the gland, and (2) corresponding loss of power in the detrusor mus-

cles of the bladder, with consequent inability to empty the bladder, the result being the gradual accumulation in the bladder of residual urine. As this residuum increases in amount the atony of the muscular coat of the bladder becomes more and more marked, until, finally, all power to expel the urine being lost, the bladder overflows and there results a constant dribbling of urine, the condition known as the incontinence of retention.

In the treatment of retention of urine in cases of enlarged prostate, three things are absolutely essential: (1) The proper instrument for the purpose; (2) an absolutely clean, and, as far as possible, sterile catheter; (3) a knowledge on the part of the physician of how such an instrument can best be used to accomplish the desired object.—Amer. Jour. of Dermatology.

Appendicitis as a Cause of Disease of the Right Ovary and Tube.

Dr. A. J. Ochsner, in a recent paper before the American Medical, tabulated the following as abstracted by Gaillard's:

This paper points out the frequency with which appendicitis is followed by a secondary inflammation of the right ovary and tube, which the author has observed in a large number of cases. It contains a table of 103 cases, in which the appendix has been removed by the author for inflammatory disease during the year 1898 at Augustana Hospital.

There were ninety patients suffering primarily from appendicitis and thirteen in which the primary disease was either in the adnexa, or both the appendix and tubes were so extensively implicated that it was impossible to determine the primary seat of the inflammation.

Of the ninety patients suffering primarily from appendicitis, thirty-nine were males and fifty-one females. Of the latter, thirty-six suffered from appendicitis alone, and fifteen suffered from appendicitis with a secondary involvement of the right ovary and tube.

Eleven patients were under fifteen years of age, and of these five were boys and six were girls. All the children suffered from acute attacks, with either gangrenous appendices or perforations.

Judging from this year's experience, as well as from the author's former observations, it is certain that the matter of secondary infection, especially of the right ovary and tube, has been very much under estimated.

The following conclusions seem to be borne out by this experience:

1. Appendicitis frequently causes inflammatory disease of the right ovary and tube, and occasionally the left side is also involved.

2. This condition is especially likely to give rise to chronic invalidism because of the periodic exacerbation, resulting from the congestion due to menstruation.

3. In operating for the relief of pyosalpinx, the condition of the appendix should always be determined.

4. In operating for chronic recurrent appendicitis in patients suffering also from dysmenorrhea, the right ovary and tube should be examined.

5. If the pain is limited to the right side in severe dysmenorrhea, the appendix is frequently primarily involved.

6. In catarrhal appendicitis in which there is a fecal concretion in the appendix, or in appendicitis obliterans, the pain is frequently most severe during menstruation.

7. In patients who have recovered from gangrenous appendicitis there is frequently no further disturbance from the condition of the appendix, except the digestive disturbance due to adhesions, while the secondary disturbance in the ovary and Fallopian tube may continue to be very great.

8. In young girls suffering from dysmenorrhea, the history should be followed very carefully, in order to determine the presence of a previous attack of appendicitis.

9. The fact that many of these cases are mistaken for salpingitis accounts for the theory that appendicitis is more common in men than in women.

Surgical Treatment of Acute Peritonitis.

The symptoms of acute peritonitis, when operative interference is advisable and not without hope, may be grouped as follows: (1) Pain of varying degree, either local and becoming general or general becoming local, according to cause; (2) tenderness, as a result of pain, and marked rigidity of the abdominal muscles; (3) vomiting, usually of a green, ropy substance; (4) shock, vary-

ing in degree; (5) distension of the abdomen. The symptoms in fully developed peritonitis, in which the wisdom of an operation is questionable, are pain, lessened or absent; general tenderness; marked distension replacing the rigidity; incessant vomiting; obstinate constipation; rapid, feeble pulse; cold extremities and mind clear. In the early stages of acute peritonitis, an exploratory incision is justified, but not imperatively demanded. Every case should be subjected to an operation at once, or as soon as the patient has been prepared, excepting in cases of gonorrheal infection of the tube, in which operation may be delayed until the acute symptoms subside. The method advocated is the irrigation of the peritoneal cavity with from two to four gallons of normal saline solution. No drainage is employed in non-suppurative cases.—Med. Review, St. Louis.

A New Method of Disinfection.

The following details of a new method of disinfection are given by Messrs. Walther and Schlossman in the "Journal für Praktische Chemie" as abstracted in the "Pharmaceutical Era:" "By means of a specially constructed apparatus a mixture of formaldehyd and glycerin is sprayed into a room which is to be disinfected, until a thick fog results; about four pounds of the mixture are needed per 1,000 cubic feet. The room need not be hermetically closed during the operation, as the ordinary circulation of air assists in spreading the disinfectant and in enabling it to reach remote corners. Three hours' exposure was found sufficient to kill all germs in the rooms experimented on, though the test objects were purposely chosen of the most refractory nature. For example: Pieces of linen thickly coated with a paste of white of egg and garden soil, dried in an incubator; layers of soil three or four millimeters (⅛ to 1-6 inch) thick with potato skins under and above them; potato skins alone. These were placed, open and covered, at various heights in the room, in recesses in the wall, on the floor, under pieces of furniture, in tall glass sylinders, or in shorter cylinders under a layer of wadding, in the pockets of thick winter clothing. Feces were also sterilized by this exposure. Live guinea pigs and rabbits were also found to be freed from bacteria in their skins, their bedding straw, and their excrement. The authors attribute the very advantageous effect of adding glycerin to the formaldehyd to its hygroscopic character and its power of adhering to and penetrating most of the ordinary porous materials found about a household. They anticipate that it may be found possible to diminish still further the necessary duration of the period of disinfection, and that their method will become a much more powerful agent than any yet known against the spread of infectious diseases, not only in man, but in the lower animals."

Conservation in Pelvic Surgery.

The following rules may be laid down for guidance in the practice of conservative pelvic surgery:

1. An ovary should not be removed simply because the tube of its side has been taken out.

2. Wherever it is possible in cases of parovarian cyst, the ovary should be left.

3. In cases of adherent ovary, every effort should be made to so relieve its adhesion as to not tear it out from its insertion into the broad ligament, with a view of leaving it intact.

4. So-called Graafian cysts may be punctured with a knife or scissors, or by cautery.

5. Hematomata may often be dissected out where they do not involve too much of the ovarian tissue.

6. Frequently small ovarian cystomata and ovarian abscesses may be so manipulated as to preserve the functions of the ovary.

7. Tubes may be preserved not infrequently by proper care. Adherent tubes are released, strictured tubes are opened, and tubal abscesses may be frequently drained.—Thos. B. Eastman, M. D., Indiana Medical Journal.

How One Disease Cures Another.

The curative and prophylactic action of one morbid condition upon others forms a curious chapter in the science of medicine. Dr. Harry Campbell ("British Medical Journal," April 30) considers these curative effects under five headings, namely, metastasis, mechanical and traumatic effects, febrile disorders and miscellaneous affections, and cites numerous examples in support of his assertions. As instances of metasta-

sis may be mentioned the sudden stoppage of a urethral discharge upon the supervention of orchitis, the replacement of coryza by pneumonia, of a quinsy by gouty arthritis, the frequent protean shifting and alternations of functional nervous disorders and the alternation of glycosuria or dyspepsia and eczema, or of deafness and vertigo. The phenomena of counter irritation are probably related to those of metastasis. The mechanical mode of cure is illustrated by the removal of ringworm by the induction of suppuration, or of lupus by syphilitic ulceration. A remarkable instance in this connection was the fixing of a loose cartilage by a traumatic arthritis. Another suggestive case is that of a woman with scirrhus of the breast and inveterate widespread psoriasis, which disappeared rapidly after removal of the breast. Chronic tonsillar hypertrophy may subside temporarily or permanently under an acute fever. Most physicians have seen instances of greatly improved general health following an exanthem or some specific fever, such as typhoid. That febrile disorders may exercise a beneficial effect upon mental disease is a fact which has engaged the attention of alienists for some years past. Not only malignant growths, but chronic ulcers of the skin, lupus nodules, syphilitic sores and other affections occasionally disappear with great rapidity after an attack of erysipelas, which has also a remarkable influence upon acute yellow atrophy of the liver. There is no doubt that vaccination acts beneficially in whooping cough and certain chronic affections of the skin. Among the miscellaneous cases reported by the writer is one of marked paralysis agitans of twenty years' duration. Two years ago the patient had an attack of probable embolic right hemiplegia, from which he made a good recovery with complete cesssation of the tremor bilaterally.

The Liability of Patients for the Fees of Consulting Physicians.

A legal case, of much interest to the medical profession, was recently decided in Tacoma by Judge Smalley, in the case of McKone vs. Cole, an action at law to collect a consultation fee of $20, by plaintiff from defendant. The defense was that the plaintiff never employed Dr. McKone, but that the latter was called in without consulting him, by his family physician, Dr. Stratton, who was attending him for an attack of appendicitis at the time, and for this reason the attending physician was responsible for the bill. The court held that in serious cases the patient is not competent to judge of his own condition, and that the attending physician need not always inform the patient of his intention to call counsel, as the excitement pending such a consultation might be prejudicial to the patient's chances of recovery. A verdict was accordingly entered for plaintiff. The decision was certainly one in which law and common sense seem happily combined.—Occidental Medical Times.

Yellow Fever.

The outbreak in Hampton, Virginia, seems to be under control and has been limited. Cuba, the home of the disease, is undergoing its first real cleaning since the original settlement of the island. It will take two or three years, possibly five, to eradicate the disease, but it will be done, and mortality rates will be again lowered.

In the late war with Spain, and in the present war with the Filipinos, there were and are passionate appeals for doctors. The people have learned to rely upon educated physicians for a care of their health beyond anything ever before known. In the war of the rebellion, which was only a third of a century ago, there went forth no such cries. There were doctors, but in proportion to the men in the army their number was small. Companies, battalions and regiments were often without any sort of a medical officer, and in case an assistant surgeon died or resigned it was quite the custom to promote a hospital steward to that position. Not so now. The government and the people want the best qualified medical men that can be produced, and they are to be had for the asking, in consequence of which mortality rates have been exceedingly low, and the sick and wounded better cared for than in any previous war. Disasters only took place where medical advice was ignored.

The services of General Wood have not been second in value to that of any officer in the United States army, and all because he has a medical education. The President can safely at any time make drafts on the medical staff for men to act as military gov-

ernors in our new possessions, and he will rarely make a mistake. These men have a peculiar education. They understand the humanities of life better than it is possible for those to appreciate who have been engaged in other pursuits. Their courage is beyond question. They see and recognize a personal foe in every contagious disease, and face it without flinching. There is no lack of physicians ready to go to Havana, Hampton or any other point. All that is wanted is the word and they are off.—Lancet-Clinic.

The Death-Dealing Long-Tube Nursing Bottle.

The object of this paper is briefly to give the perilous and untrustworthy features of the so-called long-tube nursing bottle, and to show justification for not only interdicting it, but doing so by law. The peculiar features of danger from its employment may be summarily stated, that owing to its construction and material and to the use to which it is put, probably no better incubator of pernicious micro-organisms and their toxins could be easily designed, as none have proven so successful. A series of investigations was made, microscopically, bacteriologically and chemically, establishing beyond question the danger of these tubes for the introduction of pathogenic microbes into the infantile economy. —E. Wende, Med. Rev.

Rules for Determining the Necessity of Operation in Appendicitis.

G. D. Ladd, in the "Medical Standard" for July, 1899, has an excellent discussion on the guiding symptoms which determine the necessity of operation. He says that the cardinal symptoms of appendicitis are tenderness and pain, and alterations in the temperature and pulse. These vary in their severity in different cases; in one case there may be repeated vomiting; in another high temperature, in another rapid pulse, or in still another great tenderness and pain on pressure over the region of the cecum. If any one of these symptoms is very prominent, it indicates more than a simple inflammation of the appendix.

Tenderness is of the greatest value as a diagnostic symptom; it is variable and may not attract attention by its prominence in all severe cases, or it may not be proportionate in its severity to the extent of the destruction going on in the abdomen. Pain, when it is severe or persists, or recurs with considerable severity, is an indication that a more serious condition than a simple inflammation exists—that local, if not general, peritonitis is present. Pain may be deceptive in its location or degree, but if severe and continuous, or persistently recurring, it is, taken alone, an indication for operation.

Temperature may be deceptive in appendicitis; it remains comparatively low in grave cases; it may mislead by suddenly dropping at a time when gangrene is taking place or pus is emptying into the general peritoneal cavity. A low or moderate temperature should not be interpreted as proof of a mild or safe case. In undoubted appendicitis a low temperature should be regarded as an indication of severe infection and a need for early operation.

The pulse may remain moderately low and of good quality until late in the progress of a fatal case. A rapid, feeble pulse calls for immediate operation. Persistent recurring vomiting indicates a severe condition; it may, however, be absent in severe cases. Its presence in a persistent and prominent form indicates a grave condition of affairs calling for immediate operation.

The Role of Typhoid Fever in the Etiology of Epilepsy.

It is a well recognized fact that infectious diseases exert a favorable influence upon epilepsy, inhibiting the seizures as a rule throughout the period of acute illness, and sometimes for a long while afterward. On the other hand, it has also been shown that epileptiform convulsions can be induced in animals by the injection of bacteria and toxins, and there are on record observations in human beings in which epilepsy has followed typhoid fever. In some of the latter there has been a neuropathic predisposition, and the acute febrile disease can be looked upon only as an exciting factor. In others there had been convulsions in infancy, and the typhoid fever may have merely roused into activity a latent condition. Finally, in a third group, the fever must be considered as the essential causative agency. Dide ("Revue de Medecine," February 10, 1899, p. 151) reports illustrative cases of each of these varieties, and

points out that the epileptic seizures may set in either during or after the attack of typhoid fever. In the former event they are to be looked upon as a toxic manifestation; in the latter, as a paratyphoid manifestation, resulting remotely from cellular changes induced in the nervous system by the action of the poisons generated in the course of the primary disease. If these observations are correct they will probably be found to have a wider applicability, and what is true of typhoid fever may reasonably be expected to prove true also of other infectious diseases.

A New Method of Combating Germ Diseases.

Of late much time and effort have been devoted to the elucidation of the causes underlying the crisis or lysis which occurs in almost every infectious disease and which establishes their self-limitation. It has long been hoped that if the power which limits or annuls the contagion and brings about a more or less rapid cessation of the poisonous effects which the bacteria are able to bring about could be discovered, and the manner in which such counteracting forces accomplish their beneficent purposes be clearly elucidated, that we could then have the means at hand which would enable us at any time to bring about artificial crisis or lysis, and thus be able to cut short the disease, or even to destroy the germs in situ, and that, too, by a natural method which would not endanger the life of the patient.

After long years of research and experimentation by chemists, bacteriologists and pathologists, it looks now as if the cause of the self-limitation of infectious diseases had been discovered, and that this new light shed in dark places would forge a weapon to our hand which will enable us to still further successfully combat the ravages of pneumonia, typhoid fever, smallpox, scarlet fever and suchlike germ diseases.

Recent communications on this subject by Emmerlich and Loew go to show that the same bacteria which produce the toxins and ptomaines that cause the worst symptoms of germ diseases also produce certain enzymes, which, if the patient possesses sufficient vigor and resisting power to tide him over what we call the crisis, collect in sufficient quantity to antagonize the effects of the toxins and even to overcome and kill the bacteria. This putting a limitation to the active lifework of disease germs by means of agents generated by themselves seems to be nature's method of establishing a self-limitation to every infectious disease, and it seems probable that by isolating and properly preparing such enzymes for use as medicinal agents we may possess a potent means of jugulating or shortening the course of every infectious disease.

Of course, this new method of treatment differs essentially from the principle of vaccination for smallpox or of inoculation for other infectious diseases, in that in the former an agent is introduced which will kill the bacteria without harming the patient, while in the latter our aim has been to protect the patient by giving him a mild type of the disease. In the present status of our knowledge of this subject of the self-limitation of certain diseases and of the natural method by which it is brought about, we may confidently hope that these new products or enzymes will produce even more satisfactory results than the viruses or the antitoxins have already accomplished.—Jour. of Med. and Science.

The Value of the Murphy Button.

This device has been before the surgical profession for a number of years and has called forth widely varying opinions of its value in intestinal anastomosis. Many writers are of the opinion that it is no improvement upon older methods; others, again, think that it marks a distinct advance in the technique of abdominal operations. The time that has elapsed since it was first exploited has been sufficient to relegate it to the limbo of discredited procedures if it were devoid of merit. The fact that at the present time the discussion was never more active regarding the value of this procedure, and that it numbers among its supporters some of the leading surgeons of the world, is sufficient to test its value. Surgeons in foreign countries have devoted more attention to the subject than have our own, and the use of this device is enthusiastically urged by some of the leading operators of Germany, France and Italy.

The use of the button is found to be not devoid of complications, as it is frequently retained for weeks and months, and it sometimes causes obstruction. It would

be surprising if the device were universally successful, and if it were, this alone would stamp it as a unique surgical procedure. That the button has come to stay, as a recognized surgical appliance in abdominal surgery, there can be no doubt. Notwithstanding the enormous amount of experimental work that has been done upon these lines, no satisfactory substitute has yet been obtained. While many operators are able to get along without it, and probably achieve equally good results as those who use it, yet this does not show that the button is of no value.—Ed. Medicine.

The Country Doctor and the City Doctor.

"A contented mind is a continual feast."

Of how many medical men who have cast their lot outside the great cities is it true that the one disturbing element in their otherwise happy and contented lives is the dissatisfaction with their surroundings; the great desire to "move to the city." It is unfortunate that such men cannot be permitted to look upon the other side of the picture, that they might realize how infinitely better off they are than the average medical man of the cities. We have a New York medical journal as authority for the statement that fully two-thirds of the physicians of that city are living lives of "dignified starvation."

On the surface, city life is alluring to most men, and to none more so than to the medical man. If he be studious, the libraries, laboratories, hospitals and professional societies of the metropolis are as enchanted visions to his knowledge-hungering soul. If the commercial side of practice appeals the more strongly to him, he is envious of the crowded waiting-rooms and generous fees of the city practitioner. If it is the light and sparkle of existence that attracts him, he bewails the fate that deprives him of the opera, the concert hall, the grand ball and the thousand and one amusements—innocent and otherwise—found only in the centers of population.

Of what advantage are facilities for study if the doctor fears to spend a single unnecessary hour away from his office lest he miss a call and its incident—badly needed fee? Many of the waiting individuals you have seen in the consulting room of the urban practitioner are from his charitable hospital or dispensatory clinic, and of the remainder more are waiting to present bills than to pay them. If the fees charged—and sometimes collected—are four or five times the sum you would expect to receive, in whose favor is the balance when you learn that every month your city friend's expenses are eight or ten times as much as your own? Such is the fact. It is not the money which passes through your hands that counts, but that which "sticks."

You are making a good living where you are, and saving something every year. You are known and respected for your ability and yourself. You and your family have numerous close personal friendships—how many and how close you will never realize unless you have occasion to break them. There are innumerable calls upon your time. Imagine yourself, if you can, located in the city of your choice, sitting in your empty office waiting a month, six months, a year, for your first call. Men as bright and experienced as yourself have done it time and again before now. The old comradeship which you never before appreciated is replaced by an almost brutal indifference as to you and yours. It takes a dozen such years to establish a respectable practice, while the social pleasures of the old home are gone forever.

It is true that you have personally known men who left the country for the city and have made great successes. Have you noted the ten failures to the one success? In the successful instances have you known what powerful influences were favoring the newcomer? Old friendships with men already successful in the city; friends or relatives in control of railways, factories and the like, who are able to do for the newcomer what years of hard work could not have done. Know and realize that the average city doctor looks upon your life of comfort and plenty and freedom from care with even more envy than that with which you regard his surroudings; that you are not yet at the zenith of the fame or fortune attainable in your present location; that by improving to the utmost your opportunities for advancement in your profession there are no limits to your field of usefulness.

The public is rather fickle, and has been paying homage and shekels—and that is the important thing—to the city doctors in the past, but the reaction in favor of the intelligent, competent man, wherever he

may be found, is setting in, and that disposition is bound to increase with years. We would not have you sit down and wait with folded hands for this change, but use your spare time in improving your knowledge of your profession. Familiarize yourself with the best periodical literature, and keep acquainted with what is going on in the medical centers.—Med. World.

The George Washington Memorial Association.

Many good Americans do not know that the United States government spends about $8,000,000 a year, and employs about 5,000 persons, for what, in a general way, may be termed scientific purposes. Still fewer good Americans who think George Washington was a wise and patriotic man know that he formulated a plan and left money by will to help found a national university. The George Washington Memorial Association has been recently formed with something like 1,200 charter members for the purpose of carrying out Washington's wishes and adapting them to the new conditions and needs of the present time, by unifying the scientific opportunities, collections and work of the government into a great institution. If effectively and wisely carried out, no one can doubt that the plan would be of incalculable benefit to science and to the American people. The trouble lies in the impossibility of securing the cooperation of legislators in anything of an unselfish or genuinely political nature. Politics with us is not political. On the ground of the great advantage to medical science and progress, physicians should encourage the realization of the objects of the memorial association and see that in the working plans our professional aims are considered. What is of more vital importance to the nation than the national health?—Philadelphia Medical Journal.

The closest examination of applicants desiring to practice medicine in Illinois will be made. When the new amendment to the corporation act becomes operative, on July 1, Attorney John A. Barnes, counsel for the board, will take up the fight against "fake" medical schools and other institutions which have been selling diplomas without requiring sufficient evidence of qualification on the part of the applicant.—Illinois Med Jour.

ITEMS.

Harvard Medical School has just received $400,000 from the Ellis family of Boston.

Dr. John Binney, a prominent physician of Mount Olive, Ill., died suddenly of apoplexy on August 14, at his home in that place.

The itching eye, so common in childhood, and less frequent in adult life, is often the result of uricacidemia.—Dr. John Dunn.

At Roubaix, one of the socialist strongholds of France, the 11,000 public school children receive free food and clothing, at the expense of the town.

Star claims that pronounced tremor of the upper lids when the eyes are closed and the patient bid to look down is infallible evidence of neurasthenia.

According to the "Dominion Medical Monthly" for June, the Saxon Minister of Education has recently issued a decree forbidding girls attending public schools in Dresden to wear corsets.

According to the Cleveland "Journal of Medicine" fifteen homeopathic practitioners of that city, after having spent the winter in study at the Cleveland College of Physicians and Surgeons (regular), have received the degree of M. D.

The "Tri-State Medical Journal' has again changed its name. It is now called the "Interstate Medical Journal;" the editorial staff and business management remaining the same. The change is certainly a commendable one.

Judge Smith has settled the contest over the continuance of the Englewood Union Hospital at its new location, 838 West Sixty-fourth street, by dismissing the bill asking for an injunction to restrain the hospital authorities from occupying the present location. An appeal was taken.

The treatment of acute cocaine poisoning is by hypodermic injections of morphine, ether, strychnine and whisky. Lower the victim's head. Keep him warm and employ artificial respiration.

A Chicago man has invented a guard which can be carried in the pocket and slipped on any drinking glass, thus affording protection from infection when traveling or whenever a public drinking utensil is used.—Med. Age.

The bronze statue in memory of Dr. William Pepper, Philadelphia, has been placed on its pedestal in front of the new Archeological Museum of the University of Pennsylvania, where it will remain until unveiled early in the autumn.

Recent experiences give reason to hope that it is easier now than formerly to limit the spread of yellow fever. It is believed that the outbreak at Hampton, Va.,' has been quickly stayed in an institution where thousands of veterans are assembled.

All in all the most satisfactory treatment of pernicious anemia seems to be to build up the patient by every means available, tonics, red bone marrow, nourishing food, and then give intestinal antiseptics, and most investigators recommend salol or thymol.

Acids should generally be administered after meals; alkalies before meals; irritant mineral drugs soon after eating; phosphates, hypophosphites, malt extracts and cod-liver oil with meals; tannin iodides and mercuric chloride well diluted on an empty stomach.

The Japanese are keeping up their efforts in trying to make this country an enlightened one. The government recently ordered that vaccination and revaccination would be compulsory. All children must be vaccinated before the tenth month and revaccinated at six and again at twelve years of age.

"Well, Maggie," asked a teacher of a little girl, "how is it you are so late this morning to school?" "Please, sir," was the reply, "there wis a wee bairn cam' to oor hoose this mornin'." "Ah!" said the teacher with a smile; "and wasn't your father very pleased with the new baby?" "No, sir; my father's awa' in Edinburgh, and dinna ken aboot it yet; but it was a guid thing my mither wis at hame; for gin she had been away', I wadna hae kent what to do wi' it."—Sanitarium.

The Esquimo gives the doctor his fee as soon as he comes. If the patient recovers he keeps it; otherwise he returns it to the family. In Mexico the doctor gets his fee before the patient is buried; otherwise the deceased is believed to dwell in purgatory until the fee is paid.—Med. Age.

In determining whether or not a physician is possessed of the requisite amount of knowledge, or exercises the proper degree of skill, due regard must be had: First, to the school of medicine which he practices; and, second, to the advanced state of the profession at the time the particular services were rendered.

To prevent nausea and vomiting after ether anesthesia the inhalation of cider vinegar is recommended by many surgeons. Saturate a cloth or towel with strong vinegar and suspend it or hang it from the bedstead so that the patient will inhale the vapor constantly. It also relieves thirst and refreshes the patient.—Jour. of M. and S.

Dr. J. C. Webster, who has been appointed successor to the late Prof. James H. Etheridge, Rush Medical College, Chicago, was married recently in New York to Miss Alice Lusk. The ceremony took place in All Souls' Church, being conducted by the Rev. Dr. B. Heber Newton. Dr. and Mrs. Webster have gone to Europe on their honeymoon.

The South Dakota state board of health has refused certificates to several applicants who wished to practice osteopathy in South Dakota. The applicants are graduates of schools of osteopathy located at Kirksville, Mo., and Minneapolis. The ground for rejecting the applications for certificates was that the schools mentioned are not, according to their own published rules, regularly conducted schools of osteopathy, and for that reason are not schools of osteopathy in good repute, as required by the statutes of South Dakota.

Stimulants of the first class are injurious to the patient. Alcohol, mophine and cocaine stimulate by depressing the nerves of control derived from the cerebro-spinal system. And, unfortunately, men and women most deficient in self-control are precisely those most easily affected by drugs of this class, and, therefore, resort to them most frequently.

It has been suggested that some of the newspapers which are now applying for photographs to prospective visitors to the Mississippi Valley meeting in this city next month might save some expense if they would request the loan of some stereotypes from either the said well-known physicians or from the papers of the cities where previous meetings have been held.

Sir Alexander Armstrong, K. C. B., who died recently at the age of eighty-one years, was one of the very few men left who had circumnavigated the American continent. He was surgeon of Captain McClure's ship Investigator, which worked its way to Banksland from the northwest and whose crew was rescued by the Resolute and later taken back by the North Star through the northeast approach to the Arctic. Dr. Armstrong succeeded in keeping his ship free from scurvy for two years and three months, at that time a record. He rose to be director-general in the British navy.

Dr. Robert L. Rea, who died July 10, left a fortune to various charities. The Illinois Humane Society, the Home for Self-Supporting Women, the Visiting Nurses' Association and the Illinois Industrial Training School are to share $100,000 equally among them. The medical school of the Northwestern University receives $10,000 as an endowment for a chair of anatomy, to be known as the Rea Professorship of Anatomy. The Chicago College of Physicians and Surgeons receives $5,000, to be devoted to worthy, indigent students to pay for their instruction. These gifts to the medical schools are payable within a short time, the larger endowments first mentioned to be given at the death of the widow, but the income derived from that amount is to be distributed to them annually. The noble-mindedness of Dr. Rea is again shown in this crowning act of his long and faithfully arduous career. It is especially gratifying that the teaching of anatomy in Chicago in the college where he labored so long is to be commemorated in the manner indicated.—Recorder.

Several physicians of Lille, France, have applied their scientific knowledge in perfecting industrial processes and have made large fortunes as more or less silent partners in manufacturing establishments. Professor Calmette recently presented the institute of which he is a director with a large sum given him by the proprietor of a certain industry as a share of the amount saved by certain improvements suggested by the scientist. The physicians in France take a prominent part in legislation, and the proprietor of a certain model candy factory is a practicing physician, formerly an army surgeon.—Jour. A. M. A.

With the near approach of the annual meeting of the American Electro-Therapeutic Association, to be held on September 19, 20 and 21, in the city of Washington, under the presidency of Dr. F. B. Bishop, the local committee of arrangements is redoubling its efforts to make it a success. Many electrical manufacturers will be represented in the exhibit hall, and information will be freely given. Papers have thus far been promised from Drs. R. G. Nunn, A. D. Rockwell, Margaret A. Cleaves, F. J. Leviseur, Walter White, Robert Reyburn, G. A. Corson, C. O. Files, J. H. Kellogg, John A. Licthy, W. W. Scheppegrell, L. Howe, E. Wende, F. B. Bishop, Robert Newman, W. J. Herdman, G. B. Massey and Profs. Bergonie of Bordeaux, Apostoli and Dolbear of Paris. With such authors a successful meeting must result.

MODERN THERAPY.

SANMETTO IN PROSTATITIS, CYSTITIS, CHRONIC GONORRHEA AND VESICAL IRRITATION.

I take pleasure in saying that Sanmetto in my hands has proven its superiority to other remedies in prostatitis, cystitis, chronic gonorrhea and general vesical irritation. I prescribe it with confidence every time, and in cases not attributable to mechanical causes I feel sure of relief every time. In gleet its action is marvelous, the worst cases yielding readily, and I shall continue its use.

ORAN E. DRULEY, M. D.
Anderson, Ind.

SANMETTO IN CYSTIC AND URETHRAL INFLAMMATION AND IRRITATION, AND IN CHRONIC PROSTATIC HYPERTROPHY AND ATROPHY.

I have for years prescibed, as well as taken myself, Sanmetto, and have found it almost universally satisfactory in cystic and urethral irritation and inflammation. I have also used it with marked results in chronic prostatic hypertrophy, and even in atrophy of the prostate I have found it useful.

W. A. FOSTER, M. D.
Kansas City, Mo.

THE INFLAMMATORY CONDITION IN PERITONITIS, ETC.

An interesting reference to an extensively prescribed remedy is found in that valuable text-book, "Materia Medica and Therapeutics," by Finley Ellingwood, A. M., M. D., Chicago. The substance of the article is to the effect that the influence as a pain reliever of the popular analgesic —Antikamnia—is certainly next to morphine, and no untoward results have obtained from its use, even when given in repeated doses of ten grains (two five-grain tablets). It is especially valuable during the progress of inflammation, and, given in pleuritis or peritonitis, it certainly abates the inflammatory condition, relieves the pain at once and the diffused soreness shortly, as satisfactorily as opium. It does not derange the stomach or lock up the secretions. It is also of value in pain of a non-inflammatory character, and is a convenient and satisfactory remedy in headaches without regard to cause, if the cerebral circulation be full.

SIGHT-SEER'S HEADACHE.

There are, no doubt, very many important uses for antikamnia, of which physicians as a rule may be uninformed. A five-grain antikamnia tablet prescribed for patients before starting on an outing, and this includes tourists, picknickers, bicyclers, and, in fact, anybody who is out in the sun and air all day, will entirely prevent that demoralizing headache which frequently mars the pleasure of such an occasion. This applies equally to women on shopping tours, and especially to those who invariably come home cross and out of sorts, with a wretched "sight-seer's headache." The nervous headache and irritable condition of the busy business man is prevented by the timely use of a ten-grain dose. Every bicycle rider, after a hard run, should take two five-grain tablets on going to bed. In the morning he will awake minus the usual muscular pains, aches and soreness. As a cure and preventive of the pains peculiar to women at time of period, antikamnia is unequaled and unaccompanied by habit or unpleasant after-effect. If the pain is over the lower border of the liver or lower part of the stomach, or, in short, be it headache, sideache, backache or pain of any other description caused by suppressed or irregular menstruation, it will yield to two five-grain tablets. This dose may be repeated in an hour or two, if needed.

RENDER UNTO CÆSAR THE THINGS WHICH ARE CÆSAR'S.

It gives me pleasure at all times to render unto Cæsar the things which are Cæsar's. Although I am opposed to giving certificates relative to proprietary medicines, in this case I overlook my objections, as I consider Sanmetto one of the greatest vitalizers of the reproductive organs now in use.

P. C. JONES, M. D.
Kansas City, Mo.

SANMETTO AND SUBSTITUTES WITH "THE SAME FORMULÆ."

I have used Sanmetto in cases of catarrh of the bladder and enlargement of the prostate gland with great success. In fact, I never saw anything so near a specific Henceforth I will not be without Sanmetto. Saw-palmetto and Sanmetto substitutes with the "same formulæ" do not act nearly so well. I therefore with pleasure recommend Sanmetto to the medical profession.

J. L. SAMMONS, M. D.

Calis, W. Va.

MALTINE WITH CREOSOTE.

Among the more recent remedies Creosote has proven of the utmost value in the treatment of tuberculosis in its various forms, especially pulmonary, and in septic conditions of the alimentary canal as exhibited in different forms of diarrhea. By its antiseptic properties it counteracts the toxic influence of tubercle bacilli, destroys bacilli of a less virulent type, and increases nutrition by stimulating metabolic activity. Its combination with Maltine has proved exceptionally serviceable in supplying a highly nutritious element, disguising the disagreeable taste, and completely removing the tendency of creosote to produce gastric irritation; in fact, pure creosote, such as is used in this combination, causes little or no irritation in the alimentary canal, even when taken alone.

Each fluid ounce contains four minims of pure creosote, which represents more than eight drops.

A GREAT CHART.

Antikamnia Chemical Company of St. Louis has mailed to every English-speaking physician of the world a copy of "The Antikamnia Fetation and Parturition Chart," designed and illustrated by the late Dr. L. Crusius. The tremendous undertaking and expense may be imagined by recalling the fact that there are nearly 125,000 physicians in America and some 165,000 in the British empire who speak English; the postage alone being 4 cents for the States and 8 cents for foreign countries.

Wet dressings made by saturating sterile gauze with menthoxol are recommended very highly in the treatment of all wound surfaces. Healthy granulation is stimulated, pus destroyed and its further formation prevented. Camphoroxol in the same way makes a superior dressing for the umbilicus in the new born. Both are non-irritant, harmless, and besides being powerful germicides, exert this action for a longer period than most antiseptics of this nature. They are stable and retain their undiminished activity for months.

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Cæsarean Section.

By A. S. WAISS, M.D.
Professor Gynecology, Chicago Clinical School.

PREGNANCY COMPLICATED BY FIBROMATA. MYOMECTOMY AND HYSTERECTOMY.

Reviewing the literature on "Uterine Fibroids," especially during pregnancy, and the question, what to do with a fibromatous uterus, we find a great deal written pro and con on the subject, and find also that each writer settles it fully to his own satisfaction, yet in a number of cases the results arrived at are diametrically opposite to each other; the entire removal of the fibromatous uterus, whether a single subperitoneal tumor only exists—the claim being made that such a uterus is doomed to have other tumors develop, with the result of having finally to be removed; hence to save the wear and tear of a second operation, to have it removed in toto while patient is still comparatively in good health. To the other extreme, never to remove a uterus on account of fibromas, matters not how many present or of what variety, they should all be enucleated, and the uterus saved, especially in a woman under forty. Among these were also found those advocating the removal of ovaries and tubes, but not to touch the tumor or uterus; it would take care of itself (a very useful organ, indeed, after the removal of the appendages!). Now, the right road lies between the two, or, better, the merging of these two extremes, and in selected cases either method can or better should be employed —as the case demands.

The following cases from my practice will plainly illustrate this; how, in Case I, had hysterectomy been performed, a useful organ would have been sacrificed and the harm that would have been done to the patient, while in Case II had a so-called conservative operation been performed, a really useless and dangerous organ would have been retained—one out of which all tumors could not be removed, they being both subserous and intramural, bulging down into the cavity of the uterus.

The second consideration illustrates the ability of a myomatous uterus to carry on gestation to maturity or to the time of viability, even in the presence of multiple fibromas.

Fibroid tumors of the uterus originate in its muscular walls. These tumors, as we shall observe, are composed of muscles and connective tissue, hence the names myofibroma and fibromyoma, the prefix designating the more abundant tissue. Fibroids are classified from the position they maintain, viz., subserous, interstitial and submucous. As a rule they grow very slowly, yet in exceptional cases grow rapidly, may be single or multiple and attain various sizes, from a pea to over 100 pounds. Dr. Hunter of New York reports the removal of a fibroid weighing 140 pounds, being 55 pounds more than the woman weighed after the operation.

Nothing positive is known about the direct causation of uterine fibroids. Dr. Byford of our city thinks the cause may be due to a microparasite, others think the long continued irritation may be the cause of these neoplasms. While the greatest number are discovered during the menstrual period of life, how about those found before puberty? The dangers arising from a myomatous uterus are not many if hemorrhage and pressure through size of growth are eliminated, yet dangers great and grave do exist when pregnancy supervenes. The chief source of danger is malignant degeneracy. It has been claimed that the uterus is very liable to rupture, especially when the tumors are of the interstitial and submucous variety. The tumor and walls of the uterus undergo degeneration. Either a hypertrophy or an atrophy occurs, in either case weakening the structures, to the point at times rendering them incapable of performing their duty in gestation. There are on record a number of cases of rupture of the uterus from this cause. I have lately read the reports of

cases of rupture of the uterus where fibromas were not diagnosed, and only at the post-mortem were they discovered, demonstrating the danger to both mother and child that is present in all cases of pregnancy in a myomatous uterus.

Case I: Mrs. M., age 26; married four years. Was called to attend her January, 1892; found her bleeding profusely from effects of a miscarriage, a two-months pregnancy. Patient had two other abortions previous to this. Finding on examination that membranes were retained and unable to reach them with finger, employed dull curette under strict asepsis and emptied cavity thoroughly. Intrauterine douche and light vaginal packing for the first twenty-four hours were followed by uneventful recovery, her temperature never going above normal. No fibroids were detected, although uterus was repeatedly examined.

In May, 1894, was called to confine her. Found midwife in attendance. Labor pains had set in some fourteen hours prior to my arrival, yet had not progressed beyond an imperfect dilatation of the os. The pains were severe, yet no progress made. Digital examination revealed a large, firm mass occupying the cavity of the sacrum, filling it entirely to the exclusion of uterus. On palpation a small tumor was felt near the left cornu; hence the diagnosis was made of multiple fibromata, the largest barring delivery. Case was explained to husband, an intelligent gentleman, anxious for a living child. He readily consented to operation; even the mother was willing and anxious.

Preparations were at once made and operation was performed at patient's house three hours later. Patient was thoroughly prepared; also physician, assistants and nurse. Through a median incision the uterus was exposed and lifted from the cavity. Gauze was employed to pack around and the uterus incised by a straight cut over the fundus. A living child was slowly extracted. An assistant made compression over arteries. The umbilicus, which was exceedingly long, was found wound twice around child's neck and knotted. The placenta was implanted over right cornu, easily detached, as uterus readily contracted; all blood clots removed and washed out with sterilized normal salt solution. Uterine incision was firmly and perfectly closed with silkworm gut sutures. Patient standing manipulation and anesthesia well, attention was next directed to the fibroids. It needed but a minute to remove the small one at the cornu, it being pedunculated. Uterus was drawn forward, and after some manipulation tumor loosened, raised out of its bed and brought into the field of operation; a median incision made over tumor, capsule incised and literally shelled out by blunt dissection. Tumor was a fibromyoma, irregular in outline, the size of a child's head. No other tumors were found. The uterus at once began to contract, nearly obliterating the cavity from whence tumor was taken, it requiring but a few stitches to close wound and control all oozing. Chromatized catgut was employed. The ovaries and tubes were examined, found healthy and returned. The abdominal incision was closed by through and through sutures of silkworm gut, in addition to a running catgut for the peritoneum. Recovery absolutely uneventful. Temperature a few hours after operation, 99.5 degrees; normal ever after. Lochia normal; no odor; slight after pains easily controlled. Patient well to all appearance by the eighth day. Kept in bed for three weeks. Abundant flow of milk on fourth day. Child, a seven-pound male, was born asphyxiated. Sylvester method and cold and warm water soon had it yelling lustily. Has since grown to be a robust and healthy child. Examination three months after confinement, cervix elongated, body of uterus normal both in size and contour. Palpated through rectum seat of tumor, neither sutures nor line of union could be felt, nor line of union anteriorly could be detected. Uterus appeared smooth and perfectly normal.

June, 1896, confined same patient via naturalis. Saw patient every month during this gestation. Delivery normal; os dilated slowly, yet satisfactorily. Head presented in L. O. A. position, cord normal, neither twisted nor knotted. Placenta delivered half hour after child. Child was eight-pound boy. Puerperum normal.

Case II: Mrs. A., age 28. A mulattress, seven months pregnant. August 3, 1895, was sent for on account of pain, irritation of bladder, and at times uncontrollable vomiting, with following history: Her mother had had nine children to four husbands. Patient was the oldest and her

father was white. Patient had been married twelve years. Had one child one year after marriage and two miscarriages, the first one brought on by a friend, the second through a fall two years later. On physical examination found her emaciated to a degree, anemic, light anemic bruit. Palpation revealed on surface of uterus a number of fibroids. Abdomen pendulous. Vaginal examination showed a mass the size of a large orange, on the anterior aspect of uterus, pressing on bladder and pushing the os to the right, upward and backward. Diagnosis, multiple fibromata, and advised, considering physical condition of mother, especially as child was viable, an immediate operation in the interest of both mother and child. The viability of child was further demonstrated by the stethoscope. Patient and her husband, having a fear of the very mention of an operation, refused; were going to trust the Lord, since they had so much faith, having joined a new church and gotten religion only a few days before. Twelve days later was sent for in a hurry. On my arrival found that labor had set in. Two colored midwives were in attendance. Patient had been in labor twenty hours. One of the midwives had attempted forceps delivery. "Could not get them to shut," she explained. "Head is way down thar," and only wanted me to apply them; she could do the rest! Patient becoming exhausted, they were forced to send for aid. On examination found that, although cervix was dilated, head could not engage, due to large anterior tumor, which prevented its descent, and it was this firm mass the midwife mistook for the head and attempted to grasp with her forceps and deliver. Surroundings were not the most aseptic, yet through urgency of case Cæsarean section was undertaken at her home. Patient was thoroughly scrubbed with green soap, followed by bichloride, alcohol and ether. Surgeon, assistants and nurses, as all other things, were at once put in readiness for operation. A long kitchen table made a very acceptable operating table. The step in this operation was somewhat like the last one. On exposing the uterus it was studded with subperitoneal and intramural fibroids from the size of a hazelnut to that of a large orange. The incision cut through four degenerated fibroids. A four-pound living girl was extracted. The membranes and placenta were left in situ and removed with uterus. The appendages were examined, found normal; no adhesions of any kind were present. They were dissected from uterus and left. The body of the uterus was drawn toward the left side and the right side of the abdominal wall was retracted, so that the broad ligament was fully exposed. A fine silk ligature was passed near the horn of the uterus through the clear space below and tied tightly. A clamp was applied near the uterus and the tube divided between. The round ligament was found large and vascular; was lifted up near the uterus, tied with catgut, cut through and the uterine end clamped. The next step was the detaching of the vesico-uterine peritoneum, which was easily accomplished in this case by drawing back on the uterus and cutting through the anterior loose peritoneal fold from round ligament to round ligament. The bladder was entirely freed from its attachment. The uterus was raised and detached down to the cervix, exposing the uterine arteries and veins very readily, since they were greatly enlarged and tortuous. They were securely ligated and clamped and divided between. The ligature, introduced by a curved needle, passed through the tissues near the cervix, but did not enter it. The uterus was then completely divided in its cervical portion at a point near the vaginal junction. Labor having nearly effaced the cervix, a very narrow ring of it was only left, which contracted down firmly. The opposite uterine vessels were ligated and clamped by rolling the uterus out of the abdomen. Next the round ligaments were disposed of and finally the cornu treated as on the opposite side, freeing the uterus. The cut surface of the uterus, in the act of removing, bled but slightly; a thick gauze pad controlled it and kept the field clear, while in the broad ligament but very few vessels had to be clamped to be finally ligated. Patient lost but very little blood. The wound was gone over and every important artery tied again to prevent secondary hemorrhage. The stump was closed over the cervical ring by a few catgut sutures, completely closing the wound and checking all oozing. Finally the vesical peritoneum was drawn over the line of sutures and fastened by a running catgut suture. No drainage was used; the abdominal wound was closed in tiers. The patient did not react well, although the

operation did not take more than forty minutes. A warm salt solution enema was given to patient before she left the table. We stimulated her for twenty-four hours. Temperature first twelve hours, subnormal; for twelve hours thereafter, 101 degrees; but from that on normal, patient having an uninterrupted convalescence. Rectal feeding was resorted to for four days.

Commenting on this case, a person is struck with the danger this case was exposed during those seven months of gestation, and especially during those twenty or more hours of labor before operation, when the uterus contracted so forcibly. The finger could penetrate the walls of the uterus at a number of places, so degenerated were they in those locations. This patient was physically run down and not in good condition for operation, yet she would have surely died if left to herself. Her uterus could not have stood the strain of contracting much longer, showing that often the worst of cases, if operated, will go on to recovery.

This short article brings again before us the old adage that "each patient is a rule unto itself" and must be treated accordingly, and in medicine and surgery especially we cannot adopt cast-iron rules and submit to them all our patients ailing of a specific ailment.

Management of Placenta Prævia, with Report of Cases.

By Frank B. Earle, M.D.,
Professor of Obstetrics, College of Physicians and Surgeons, Chicago; Professor of Obstetrics and Diseases of Children, Chicago Clinical School.

When, after the middle of pregnancy, hemorrhage from the uterus takes place, attention is directed immediately to one of two conditions—either threatened miscarriage or placenta prævia. Presumption of evidence would be in favor of the former, inasmuch as miscarriage is so extremely common and placenta prævia such a comparatively rare condition.

The differential diagnosis between these two complications of pregnancy is sometimes attended with considerable difficulty, but usually the history of the patient during the next two or three days will settle the question of diagnosis.

The management of placenta prævia is not difficult, although the recognition of the condition usually alarms the attending physician as few of the accidents in obstetrics are capable of doing. This question is one which has engrossed the attention of the profession perhaps as much as any question in obstetrics, and we have arrived at reasonably definite conclusions regarding its treatment.

After the first hemorrhage, the diagnosis having been determined upon, several questions must be settled. What is the exact location of the placenta? Is it lateral, the more common form, or is it central, the rarer form? Shall we undertake to carry the patient to term, or is it advisable to terminate the pregnancy? It is believed by many that no safety for mother or child exists after the first hemorrhage, and there is an abundance of evidence in support of this theory; but, on the other hand, it must be remembered that there are many instances in which hemorrhage takes place during the sixth and seventh months, and even earlier, that are safely carried until the fetus is abundantly able to sustain itself outside the uterine cavity. The belief that induction of labor, after the first hemorrhage, if the child is viable, is the wiser policy is supported by some of the most eminent obstetrical writers, such as Baudelocque, Spiegelberg, Parvin, Lusk, etc. Yet the writer would take exception to this advice in many instances. Experience has led to the belief that it is safe, where we can have the mother under immediate supervision, to wait until more than one hemorrhage has taken place, thus carrying the fetus nearer to term. This question must be determined largely upon the location of the placenta, upon the degree of hemorrhage and upon the result upon both mother and fetus. What might be a safe procedure in the plethoric patient might be a dangerous method in an anemic patient, so that there are many questions and conditions which must be considered in cases which present their first hemorrhage before the viability of the fetus and before the onset of labor. When, however, the first hemorrhage does not take place until labor has been inaugurated, then the indications for treatment are very clearly defined. The first object should be to control the hemorrhage; the second to get the parts in condition for rapid delivery, and the third to

select the method of delivery best suited to the conditions.

Before dilatatoń has taken place to any extent and the hemorrhage is profuse, demanding attention, some form of tampon is indicated. The tampon fulfills two missions—that of controlling the hemorrhage and promoting uterine contractions, with subsequent effacement of the cervix. The choice of tampon may be cotton, gauze or any of the numerous rubber bags which have been devised for this purpose. They may be left in situ for a period of twelve hours, when removal and antiseptic irrigation of the vagina and retamponing should be made. If, after having resorted to the use of the tampon for from twelve to thirty-six hours, there is partial dilatation, a wise procedure is to rupture the amniotic sac and permit the presenting part to become the natural tampon. This would be practicable only in instances of partial prævia. When we have progressed thus far, if the presenting part controls the hemorrhage, then expulsion may be left to nature, or possibly assisted by the application of the forceps. If, however, the presenting part will not engage or is not engaged sufficiently to control the hemorrhage, then the indication is for manual or instrumental delivery. The writer's belief is that most cases are successfully managed and the lives of more children saved by resort to the tampon until there is partial dilatation, then by manually completing dilatation and performing podalic version, than by any other method.

In cases of central implantation somewhat the same plan should be followed. The tampon may be used until considerable dilatation is had. We must then make our choice of routes. Will we go through the placenta and do a podalic version or will we detach the smaller portion of the placenta, push it to one side and do a podalic version? Either method is good, but the latter method can usually be very successfully executed. Inasmuch as we can determine upon which side of the uterus the larger portion of placenta is found, it is an easy matter to detach the opposite portion and to do a rapid podalic version. In support of the theory advanced the following cases are appended:

Case 1: IV para; consultation; patient in labor; first hemorrhage; central implantation; manual dilatation, podalic version. Result: Mother almost exsanguinated before operation; thought to be dead after, but made fair recovery; child lost.

Case 2: II para; consultation; patient believed to have gone two months past date of expected confinement; in labor several hours; hemorrhage profuse; central implantation. Method: Manual dilatation, podalic version. Result: Uninterrupted convalescence of mother, living child weighing 11 pounds.

Case 3: IV para; consultation; first hemorrhage at seventh month; moderate in severity; advised complete preparation for delivery and delay until next hemorrhage; patient was kept in bed one month, with almost no hemorrhage; at the end of this time she moved above and the second severe hemorrhage ensued; patient now at the eighth month; no dilatation, no labor pains. Vagina tamponed, left for twelve hours; hemorrhage controlled and slight pains inaugurated; patient completely anesthetized; tampon removed, placenta entirely covering partially dilated cervix; manual dilatation, placenta pushed to one side, podalic version. Uninterrupted recovery of mother, living child.

Case 4: III para; consultation; patient in the eighth month; transverse presentation; no fetal movements, no heart tones; lateral implantation; case in hands of midwife for a number of hours until hemorrhage became profuse. Anesthesia, manual dilatation, podalic version. Uninterrupted recovery of mother; the child had evidently been dead for a number of days.

Case 5: II para; consultation; first hemorrhage in the sixth month; slight hemorrhages at frequent intervals up to the ninth month; severe hemorrhage two weeks prior to expected confinement. The hemorrhage in this case was so severe that the patient's life was despaired of and she was sent to the hospital on the evening of March 6. Examination revealed placenta prævia centralis; gauze tampon; tampon removed morning of March 7; some slight labor pains during the night and partial dilatation of the cervix. Question as to whether under these circumstances it was advisable immediately to terminate her labor or control the hemorrhage and give her a chance to recuperate somewhat. Immediate delivery, however, was decided upon and was accomplished by means of manual dilatation and podalic version, the whole operation

not occupying more than fifteen minutes. Slow but perfect convalescence of mother, living child.

Case 6: II para; private; first hemorrhage in labor; lateral implantation; tampon until full dilatation; high forceps. Full recovery of mother, dead child.

Case 7: III para; private; same patient; first hemorrhage in labor; partial placenta prævia, prolapse of the cord; manual dilatation, podalic version. Rapid convalescence of mother, living child.

Case 8: II para; private; eighth month; lateral implantation; no dilatation; no uterine contractions; tampon, forceps. Rapid convalescence of mother, living child.

Case 9: I para; maternity case; at term; lateral implantation; date of first hemorrhage, seventh month; tampon; spontaneous expulsion, living child. The interesting peculiarity about this case was the fact that the placenta was of the succenturiata variety, the small portion being situated in the lower uterine segment and the detachment of which gave rise to the hemorrhage. Uninterrupted recovery of mother, living child.

Case 10: II para, private; sudden and profuse hemorrhage at the eighth month; lateral implantation; transverse presentation with prolapse of arm and cord; tampon; podalic version. Uninterrupted recovery of mother, dead child.

It will be seen that of these ten cases there were of the central variety 40 per cent and of the lateral variety 60 per cent. Podalic version was performed in seven of these ten cases. Forceps were used twice, spontaneous expulsion occurred in one. It will also be noted that six out of the nine children which were living at the beginning of labor were saved, the other child, Case 4, presenting evidence of having died several days previous. This gives us a fetal mortality of 40 per cent, and if Case 4 is excluded a mortality of 33 1-3 per cent where the children were living at the beginning of the operation. It is also interesting to note the fact that four out of seven children which were delivered by podalic version were living, and that of two delivered by this method and lost one (Case 1) was in central implantation and in one (Case 10) the cord and the arm were prolapsed.

While ten cases is by far too small a number upon which to base any deductions, it would seem that the foregoing method of management certainly possessed many elements which are worthy of careful consideration.

Epilepsy in Its Forensic Aspect.

By Albrecht Heym, M.D.
Professor of Nervous and Mental Diseases, Chicago Clinical School.

Epilepsy is a disease which in all ages has interested the physicians to a considerable degree. Special attention has been drawn to the psychic phenomena accompanying this disease, only during the last decades, through the efforts of Morel, Legrand du Saulle, Legroux, Griesinger, Samt, Hughlings Jackson, etc. By these authors the knowledge of epilepsy has been considerably enlarged and partly new perspectives have been opened. This amplification of our views became most important for the theories of criminality. It induced even the so-called criminal-anthropological school, the principal of which is the well-known Professor C. Lombroso of Turin, to declare in its theory of the "born" criminal the latter as identical with the epileptic. Independent from our eventual prejudices against it, the fact has been established by statistics that epilepsy and crime are in so far related to each other, as an abnormally high percentage of the inmates of all prisons suffer from this disease. While, for instance, within the ordinary population of England only 0.009 per cent of epileptics are found, the percentage of epileptics incarcerated in Broadmoor amounts to 7.7 per cent, according to Dr. John Baker. Even within the list of insane criminals about 30 per cent of epileptic cases are found. This state of things does not appear so surprising if we consider the fact that the greater part of all epileptics show deep-rooted abnormalities of the psychic functions. These psychopathic phenomena have less to do with the derangements of the intellect, which can be sometimes excellently developed,* than with those of the sphere of emotions and the will. Characteristic proof of this fact is the morose, distrustful behavior of these insane people, the greater egotism, and, above all, the abnormal irritability, which, on the slightest provocation, may

*It is well known that a number of our heroes in history, such as Julius Cæsar, Mahomet and Napoleon the First, were epileptics.

degenerate into the most brutal acts of violence.

This choleric and impulsive form of character is very frequently the cause of crimes. They are more especially preferable in the form of brutal assaults, which often end with the death of the victim. Such crimes against the person as distinct from those against property are in general characteristic for epilepsy. They are found with those prisoners who suffer from this disease in an enormously high percentage of cases. Thus Lombroso found that of 297 epileptic prisoners 76 were punished for manslaughter and 72 for assault; the rest were imprisoned for vagrancy, arson, theft and the like. Of 125 epileptics in Broadmoor there were not less than 75, that is, two-thirds, who were guilty of manslaughter or of assault with intent to kill. Similar proportions occur only in cases of alcoholism; yet here the degree of crime is usually not so grave.

More important for the theorist of criminality are the transient epileptic derangements of the mind. These appear either in company with the typical attacks of convulsions or independently, as it were, as substitutes for convulsions, as psycho-epileptic equivalents, as they are called by Samt.

The symptoms of this insane epileptic state are very different in different cases. As a rule, the attack starts suddenly and terminates in the same way, not to rarely end with a deep sleep, from which the patient wakes up in a perfectly normal state of mind. Sometimes this spell lasts only a short time; yet may be of several weeks' or even months' duration. In the lighter and quickly passing cases, as a rule, only a superficial derangement is taking place. Yet even this may be the cause of quite perverted actons. Thus, for instance, one of my patients during such a transient attack of amenia set fire to his room, in order to boil his coffee.

But, forensically, much more important are the grave cases of insanity. They are accompanied by the highest degrees of unconsciousness. We designate these as epileptic stupor. During such an attack the patients suffer from all kinds of hallucinations, mostly of horrible character, intensive feelings of fear and the impulse to violent actions. The most ghastly acts of violence, murders and mass-murders have been committed in such states of mind.

How extremely dangerous these patients may become is evidenced by the following case, quoted by Combes (Ann. Mèdico-psychologique, 1880, IV):

An epileptic was received into the hospital, where during the first night three typical attacks of convulsions occurred, in the second night two, and the third night one attack. The other day the patient suddenly jumped against a nun and inflicted wounds to her with a knife. The same way he attacked a second nun and a man who rushed to their aid. Then he, only clad in a nightgown, ran into the ward for female patients, where he killed one of them by striking her on the neck and wounded three others seriously. Only with great difficulty he could be overpowered. Short time afterward he woke up from this terrible state of mind and no recollection whatever of the occurrence remained him. According to later investigation it was found that he had had a similar attack seven years previous to that, yet not accompanied by such horrible consequences.

Still more interesting and of great forensic importance are the dreamlike conditions of unconsciousness, the dreamy states as Hughlings Jackson calls them. They appear with epileptics quite independently from the typical attacks of convulsions. They are by many patients practically the only symptoms of the disease. In these states of mind the patients are able to carry out the most complicated actions. They may eventually appear as quite normal to those around them and still they may not be conscious of their actions. Characteristical in this direction is the known case of which Legrand du Saulle tells us. A Parisian merchant only remembered of having left his room in Marseilles, when he, to his great surprise, woke up at the embarkment of Bombay. He had no recollection of the entire and absolutely useless journey, and yet his traveling companions had not noticed anything strange in his behavior. As he had not committed any punishable deed during this time, there was no reason to doubt his statements. But different is the case with those patients who in such a mental state of derangement commit all sorts of crimes. Here not only assaults are meant, but also crimes against morality, arson and theft. In such cases it is fre-

quently very difficult to save these deplorable people from a miserable fate. Sometimes these efforts are made more difficult by the fact that such patients, if caught in flagranti and brought into prison, possess a relative clear recollection of what has occurred, after consciousness returns. Often they then make a full confession. But this recollection vanishes in the course of a few hours more and more and is usually so perfectly extinguished on the day following, when eventually the second hearing takes place, that the person denies everything. These are similar phenomena as during dreaming. If we have had a vivid dream, on waking up we recollect the contents of them pretty clearly, but after a few hours they are perfectly extinguished from our memory. It is easy to see that this denying of the deed is considered usually as proof of a completely degenerated character or as simulation. On this account a more universal knowledge of these strange phenomena is quite desirable. I will quote a case as a characteristic example, which I have watched myself. It happened with a well-educated and good-mannered young lady. She was nineteen years of age. Although of a happy disposition, she was twice or three times every year overcome rather suddenly by the feeling of deepest mental depression, which after a short time passed into complete unconsciousness. After her recovery, sometimes not before the following morning, the patient was found in a state of complete mental and bodily exhaustion, far from her residence, in dirty rags, without the slightest recollection of how she had come into such a state. Once she woke up early in the morning in a forest, in which she had passed a rather cold November night. Another time she found herself, to her own astonishment, in prison. She had been caught in a dry goods store stealing several small articles. Under these circumstances it seemed to be epilepsy and she was transferred to an asylum for further observation. This diagnosis was confirmed as correct by the fact that the patient now and then was attacked during the night by typical epileptic attacks of convulsions. As she was the only daughter, and therefore slept alone at home, the attacks had never been noticed. The only thing the parents later communicated was that they had consulted several physicians on account of her urinating during sleep. Without doubt also here as is the case so frequently, an epileptic attack had been the cause of the involuntary discharge of urine.

We thus have seen how easily eventually the epileptic is in danger of coming into conflict with the penal code and how necessary it is that not only the physician, but also the lawyer and jurist have an insight into the peculiar phenomena of epileptic insanity. For, forensically considered, scarcely any other disease offers similarly difficult conditions as epilepsy. Unfortunately it still happens too often that such patients are punished for crimes which they have committed in a state of absolute mental irresponsibility.

Some Reflections on Varicose Veins.

By W. T. Eckley, M.D.
Professor of Anatomy in College of Physicians and Surgeons, Chicago Clinical School and N. W. University Dental School, Chicago.

[A Lecture before the Anatomical Class of the Chicago Clinical School.]

Gentlemen:—Certain veins in the human race are peculiarly prone to become chronically swollen, and to this condition the term varicose is applied. You meet disorders of this nature almost daily in your practice. Some cases are acute in their course and disappear after the subsidence of a given immediate exciting cause, as pregnancy. Other cases are essentially chronic in their course, and you are oftentimes humiliated because the clinical record is from bad to worse, and you are in the dark in respect to both predisposing and exciting causes of the varicose condition. The hemorrhoidal veins become varicosed, but they will be considered at another time. The veins whose anatomical location and relations we will now consider are: 1. The spermatic; 2. The long saphenous. Any deductions you and I make regarding the long saphenous vein will be equally true of the short. Any condition obtaining regarding the spermatic veins is, other things equal, true of the homologous ovarian veins. If we shall logically conclude that the angularity of entry of the left spermatic vein into the left renal vein is in the nature of known hydrostatic laws, a predisposing cause of disease, then homologically the same must be true of the left ovarian vein.

If we decide that the left spermatic vein, by virtue of its retro-sigmoid location, is subjected to pressure in excess of the pressure sustained by its fellow vein of the opposite side, and can in this apparent anatomical misadjustment declare the left testicle and cord more liable than the right to varicocele, with its concurrent discomfitures to the patient, then we may logically conclude that the left ovary is, for like anatomical reasons, more liable to congestion of venous blood than the right.

The word varix in Latin means, in English, a swollen vein. The adjective varacoid means resembling a swollen vein. Now, as a swollen vein is compressible, and may be made to disappear on pressure, it follows logically that the adjective varacoid can properly be applied to modify those substantives which resemble swollen veins in point of conpressibility. The word variciform means simply having the form of a swollen vein. The jugulars, and all the swollen veins represented by the sculptor on Hercules, are variciform. The noun varices, the plural of varix, is used in a specific sense to designate gelatinous accumulations in the umbilical cord. Dilatation of the veins of the spermatic cord is called varicocele. A varicosity at the navel is varicomphalos. In a diminutive sense varicula designates swollen veins of the conjunctiva. Varicosis means an abnormal dilatation of veins, hence it is synonymous with varix. Varicocelectomy is an operation for the excision of a varicocele, while varicotomy, which is synonymous with cirsotomy, is an operation for the excision of any varix. It will be seen from the foregoing that there is a rapid transition from the generality to the speciality of the idea in the word varix, and this fact alone is apology for our theme.

Luckily for rational medicine, no author attempts to tell the practitioner how to diagnose varicose veins. Each physician has a conception of the size of normal veins, and any pronounced departure from the normal showing increased fullness, continuing for a long period of time, is instinctively called varicose veins. For want of a better term, then, we may say this is a diagnosis by a diagnostic sense on the part of the physician, just as we speak in jurisprudence, of a judicial mind. To formulate rules for the detection of specific enlargements of hemorrhoidal or spermatic veins is akin to the futility of teaching the recognition of axioms; in the finer sense of criticism, it is tantamount to a challenge of the common and acquired sense of the physician. Comparing varicocele thus to fish worms, as is frequently done, is bad rhetorical taste, and is only one illustration of many, where medical writers show their own lack of logical sense, by failing to recognize the diagnostic sense of their fellow practitioners. A swollen vein is like a swollen vein, only this and nothing more.

Regarding the causation of varicose veins, you invoke age, sex, occupation, erect posture, and an obstructed flow of blood from a given capillary field, as predisposing causes, while tumors, pregnancy and certain cardiac and pulmonary diseases you call immediate exciting causes. Does it ever occur to you that only a very small percentage of those who stand the greater part of their lives are thus affected? Do you remember that vessels, like other conduits, are provided with nerves, whose function is maintenance of vasal tonicity? Do you read of varicose veins in aboriginal man? May not a weakened sympathetic innervation, incident to civilized inactivity, as opposed to aboriginal activity, be a strong predisposing cause of varicose veins? If growth, strength, tonicity and hardihood are the correlatives of function in other departments of physiological activities, can we consistently rule out this principle of philosophy in the unstriped muscular fiber of veins?

Experience teaches you that certain veins in the superficial fascia, the long and short saphenous, spermatic and abdominal are most frequently varicosed. Have you never marvelled on considering the remarkable uniformity of mild words by which patients, suffering from varicose veins, describe their sensations: Weight, heat, dullness, fullness, constriction, pricking, uneasiness, distress, oppression, burning and tenderness. By the above words is sympathetic pain described. Patients suffering from toothache use stronger adjectives.

Our task here this evening is not to comment on the obscure theory of the causation of varicose veins, for this you know by heart. We are not here to study diagnosis of varicose veins, for we do that in the clinics, under the masters in surgery. We are here to study normal anatomy, on these cadavers. We are taught that obliteration

of varicosed spermatic and saphenous veins is good treatment; still this license gives us no authority to violate the integrity of the vas deferens in the one case or the saphenous nerves in the other. Here we expect to gain a knowledge of anatomical relations, which alone can vouchsafe the ordinary skill that the law imposes on the surgeon in his judicial relation to society.

The testicle is supplied with blood by the spermatic artery, a long, slender, tortuous vessel given off from the aorta just below the origin of the renal artery. The function of the testicle is the secretion of spermatozoa, the male element in reproduction. The seminal fluid, thus produced in the testicle, is rhythmically transferred from the secreting testicle to the seminal vesicles, situated at the base of the bladder. The conduit conveying the semen from the testicle to its storehouse, the seminal vesicals, is called the vas deferens. The vas, like other anatomical conduits, ureter, oviduct, trachea and intestine, has its own blood supply, and hereby hangs a tale—the artery of the vas anastomoses with the spermatic, and may even reinforce or replace this vessel. In operations on the cord there is thus a double indication for preserving intact the vas and its accompanying artery. The defferential artery is a branch of the superior and inferior vesical, and is attended by its own veins.

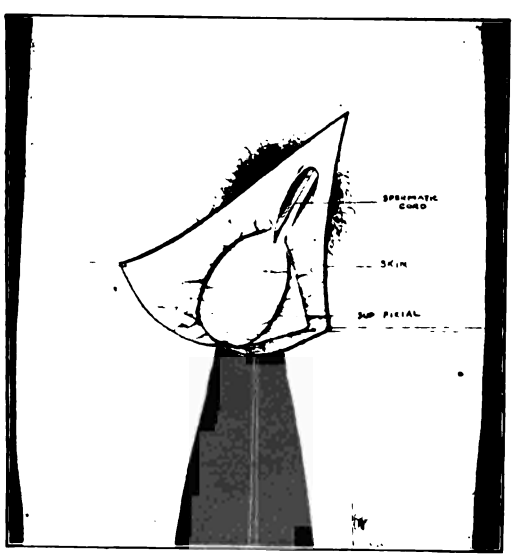

FIG. 1. Left spermatic cord dissected in the inguinal canal. The skin and superficial fascia are turned aside from the testicle.

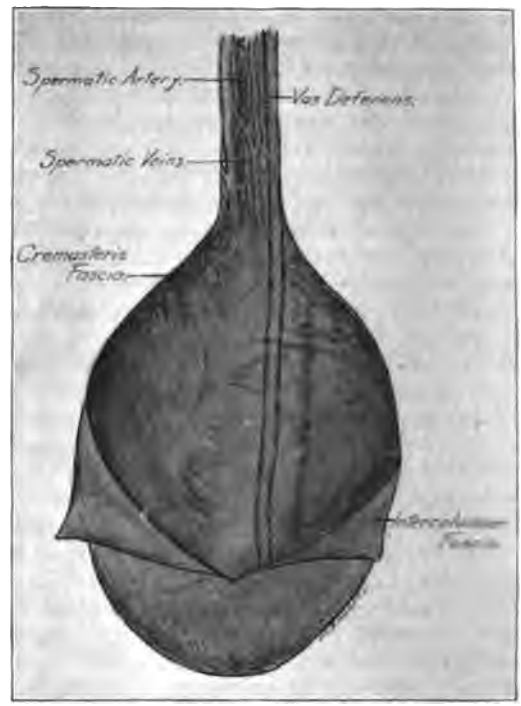

FIG. 2. Spermatic cord and hydrocele 4x6 inches. Vas shows on the posterior surface.

The spermatic veins, six or seven in number, convey the blood away from the testicle. Collectively, these veins form the pampiniform plexus of the male. You see between the testicle and the external ring five rather large veins on this dissection. These by their enlargement have given rise to the fishworm story now so threadbare in surgery. These veins diminish in number upward, and at about the level of the pelvic brim only one vein is seen, as a rule, and this one is smaller than any one of its six or seven tributaries below! Is the small size of this common spermatic vein a predisposing cause of varicocele? Or does nature for any physiological reason place this pampiniform plexus between the testicle and the discharge point of the spermatic vein? In hydrostatics, under like conditions, we have the same results—retardation of flow. This retarded flow of blood in the spermatic veins produces a swollen condition called varicocele. The fact of imperfect valves in these veins would argue that nature intended a sluggish current here. The right spermatic vein enters the ascending vena cava at a very acute angle. The left enters the left

renal vein at a right angle, as you see on the dissection. A law in physics with which you are familiar gives rise to the theory that this difference in angularity of discharge favors persistent congestion in the left spermatic plexus of veins.

Examine this dissection and satisfy yourselves of the gross relations of the structures forming the spermatic cord: 1. The spermatic cord is made up at the internal abdominal ring, just external to the deep epigastric vessels by the vas deferens and the defferential artery; the spermatic artery; the spermatic veins, usually two in this locality. Examine the cord midway between the testicles and the external abdominal ring, and you see the vas behind the mass of veins and connective tissue that make up the bulk of the cord. The vas offers some little resistance to pressure between thumb and index. I fancy the same rule we observe in the dissecting room in regard to handling the vas is equally well-timed in surgery: A most delicate touch: its cordlike resistance disappears on rude rolling, as is too often done, both on the living and on the cadaver; under which mistreatment the vas collapses like a gelatine capsule in water. The vas, like the round ligament of the uterus, is somewhat difficult to find, but in proportion as you cultivate delicacy of touch, will your efforts be rewarded in locating this, the most important structure in the anatomy of the spermatic cord. On the living the spermatic artery is known by its pulsation; the veins by their great size and color. The ilio-inguinal nerve lies in front of the cord, the genito-crural behind. The former is a sensory nerve to the scrotum. The latter is motor to the cremaster muscle.

THE LONG SAPHENOUS VEIN.

Source and Course.—This vein begins at the inner end of the dorsal venous plexus or arch of the foot; its terminal, distal or femoral end passes through the saphenous opening in the fascia lata, tributary to the common femoral vein, about one inch below Poupart's ligament. Between these two extremes, the vein passes in front of the inner malleolus of the tibia, behind the inner tuberosity of the tibia, behind the inner condyle of the femur and parallel to the inner margin of the sartorius muscle.

Tributaries.—The great number of tributary veins may be appreciated on the living by compressing the common femoral vein against the pubic bone; on the cadaver by injecting a blue starch mass into the common femoral vein. The numerous tributaries of the long saphenous vein return the blood from the skin of the major part of lower extremity.

The Numerous Termini of the Long Saphenous.—Students often erroneously think of the femoral end of the long saphenous vein, as they would think of the mouth of a river, being the place where all the contained fluid finds its destination. A more irrational opinion could not obtain,

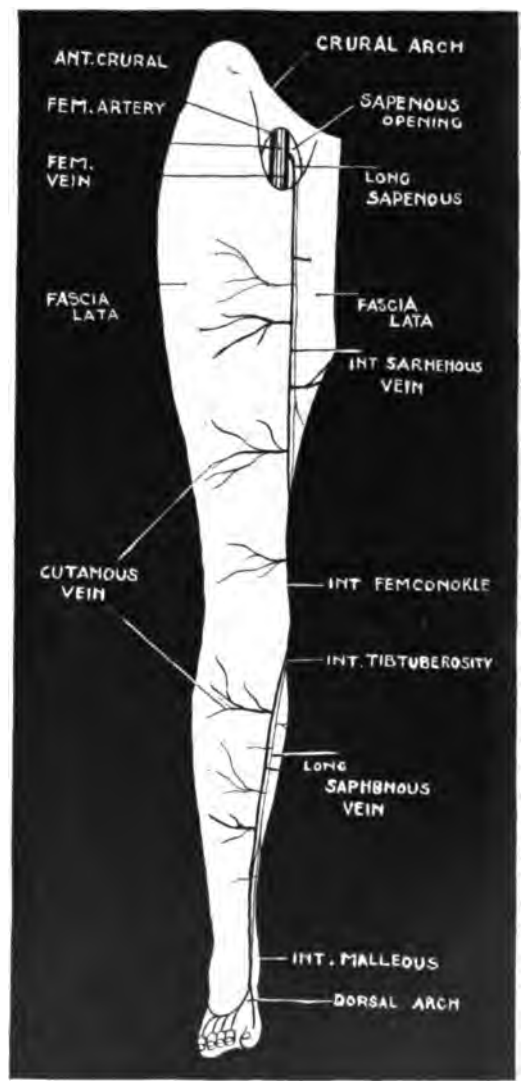

FIG. 3. Internal saphenous vein and its nerve. Dissection by Dr. Remsbury, of La Moille, Ill.

since this vein is tributary to deep veins, called venæ comites, by numerous communicating veins, between the foot and knee. The mode of termination might properly be compared to a water main giving off lateral conduits in its course through a city. The great number of communicating branches may explain the fact of the comparatively small size of the saphenous vein in scarpas triangle.

Valves.—The valves of the long saphenous vein are variable in number and position. Quain estimates this number at from seven to twenty. The competency of these valves diminishes with age, the same observer avers.

Function.—In a sense this saphenous vein is a large venous reservoir with very distensile walls; under normal conditions this vein, by the pressure its blood exerts, acting through numerous communicating veins, would seem to regulate the pressure and rhythm of the current of blood in the deep veins.

Like an Emissary System.—In some respects the relation between the long saphenous vein and the deep veins, connected by communicating branches; which traverse the deep fascia, bears a strong resemblance to the emissary system of veins, by which the blood in the sinuses of the dura mater communicates with the blood in the face and scalp. In this latter it will be remembered blood may flow either to or from the sinuses, according to the circumstances of pressure and resistance.

Fascial Location.—The long saphenous vein is in a line of least resistance between the upper and lower strata of the superficial fascia. In practical anatomy we distinguish between these two strata as follows: The upper stratum contains the fat; the lower is attached to the deep fascia and contains the cutaneous vessels and nerves. It will be remembered that the deep layer of the superficial fascia that covers the saphenous opening in the fascia lata is specifically called the cribriform fascia. The distensile nature of this cribriform fascia permits collapse of the long saphenous vein in this locality, hence there is less danger to be feared from air embolus, in operating in the vicinity of this vein, than is the case in operations near the external jugular vein.

To expose this vein requires the same delicacy and refinement of touch necessary in incising the peritoneum, the ocular conjunctiva or the aponeurosis of the external oblique muscle in herniotomy. In making skin incisions, the cut margins must separate with case one-half an inch. In the particular case under consideration, having made a proper skin incision, complete the exposure of the vein by blunt dissection. By keeping directly over the body of the vein, danger of injuring tributary veins will be reduced.

The saphenous vein below the knee is attended by the long saphenous nerve, one of the cutaneous branches of the anterior crural. This nerve should be painstak-

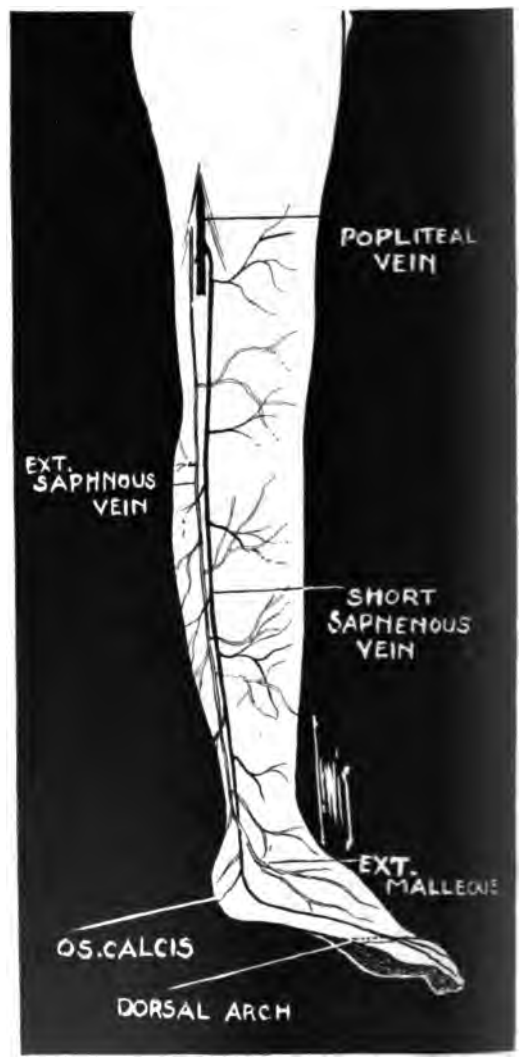

FIG. 4. Short saphenou sveinand its nerve. Dissection by Remsbury.

ingly isolated in operations on the vein. The fact that some good surgeons have good surgical results who entirely disregard the pressure of this nerve is no argument against the validity of the assumption that better surgeons will have better results by doing no violence to this nerve.

The distribution of the long saphenous nerve is such that the surgeon who operates on the long saphenous vein, disregardful of the integrity of the nerve, should, after the lapse of several months, ask himself the following questions: 1. Has the patient the normal sensations, thermic and common, in the region below the knee corresponding to the distribution of the nerve? 2. Has the patient, since the operation for varix of the vein, any articular disturbances in the ankle? 3. Does the patient have tibial periosteal pains? 4. Does the skin of the limb remain hyperemic, and is the inner part of the great toe more liable to frostbite? 5. Have neuromata developed in the course of the long saphenous nerve?

Regarding pain in the legs, authors say this is probably due to pressure on the nerves that accompany the long and short saphenous veins. In the absence of positive proof of the generally accepted view of the cause of pain in varix, let us examine the subject in the light of anatomical and physiological possibilities. In many localities pressure is invoked to explain the cause of pain, either reflex or somatic, in nerve endings. Hilton's case of pain in the knee, due to pressure of the hypogastric plexus, bears on this point. Cases of earache due to exposed tooth pulp are of frequent occurrence. Statistics show varicose condition of the veins of the external genitals, vagina, rectum and anus, as well as of the veins of lower limbs in pregnancy in about 20 per cent of cases. In these cases no one will deny that the pain is due to pressure of the gravid uterus on the hypogastric plexus. It is a general law in the symptomatology of varicose veins that there is no constant relation between the size of a varicose vein and the intensity of the pain. In the clinical history of varicose veins of the lower extremity, pain is not an early but a late symptom. As previously stated, the long saphenous nerve accompanies the long saphenous vein. This nerve is a branch of the lumbar plexus. The lumbar plexus communicates with the hypogastric sympathetic plexus. May we then not logically conclude that the pain in the legs is due to pressure of the common iliac vein on the sympathetic cords? The argument in favor of this supposition is found in the fact that: 1. In post-mortems these vessels are unusually large in cases of varicose veins of the legs; 2. In the early stages of the disease the pain is described as a heat or burning sensation, this showing the sympathetic nature, but in the later stages is described as boring or tearing, this establishing the somatic character of the pain.*

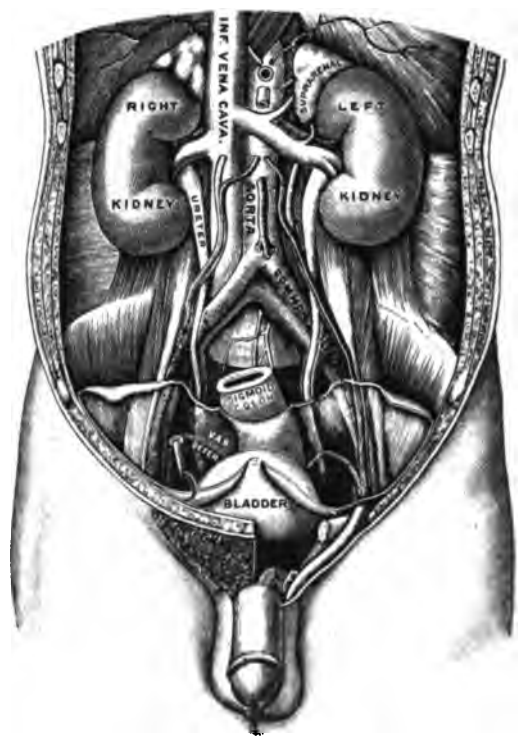

FIG. 5. Spermatic vessels in relation ureters. From Gerrish.

On the other hand, any one who has dissected varicose legs and observed carefully the relation between the vein and its accompanying nerve must be convinced of the utter impossibilty of the sluggish current of blood in the long saphenous vein being a causative factor in producing pain by pressure on the nerve or its branches. This preposterous idea, carried out, would lead to unwonted physiological absurdities.

* For a distinction between sympathetic and somatic pains see Eckley's Practical Anatomy, page 266.

The ansa hypoglossal loop, from which the depressor muscles of the hyoid are supplied, lies on the sheath containing the common carotid artery and the internal jugular vein. The pressure in these vessels is much greater than could possibly be imagined in the long saphenous vein. Do we ever hear of untoward motor symptoms in these depressor muscles due to pressure of blood? The ninth, tenth and eleventh cranial nerves leave the base of the skull with the internal jugular vein. This vein at times is subjected to such excessive engorgement that a conservative nature relieves the intracranial pressure by a profuse epistaxis. Still have we any cases on record of injury to or even disturbance of the function of the accompanying nerves? Again, if pressure of blood on adjacent nerve trunks is capable of producing motosensory reflex phenomena, why, in cases of intense cerebral congestion, do not the third, fourth, sixth and ophthalmic branches of the fifth cranial nerve respond? These nerves lie in the cavernous sinus, in an environment much more poorly calculated to escape pressure, than is the case with the long saphenous nerve. One more example will suffice. The ilio-inguinal nerve lies in front, the genito-crural nerve behind, the spermatic cord. The veins of the corn become varicosed. Why do not patients suffering from varicocele have pain on the inner part of the thigh and scrotum, and motor disturbances in the internal oblique muscle of the abdominal walls. If the pressure of the long saphenous vein causes sensory disturbances in the long saphenous nerve, why does not a varicose condition of the spermatic veins cause contraction of the cremaster muscle and elevation of the testicle? The relation of the spermatic veins and genito-crural nerve is more intimate than is that of the long saphenous vein and its nerve.

Scores of similar questions might be asked and answered in like manner, but absurdities in logic, like monstrosities in botany and zoölogy, are of interest only in so far as they point out possible aberrations from truth, as we understand this virtue to rest on the broad basis of type. I would not be understood as ignoring the importance of pressure in many cases, but only as questioning the propriety of attributing pain to supposed pressure when the only evidence is: 1. Pain that may be logically referred to a legitimate source, and, 2. Contiguity of anatomical parts, whose natural protection is always an investment of connective tissue. The obturator, anterior crural, circumflex, ulnar and musculo-spinal nerves are often damaged by pressure, but under pathological conditions so diverse from those under consideration, that no parallelism can be established.

Streptococcus Infection following Lobar Pneumonia.

By Cassius C. Rogers, A.B., M.D.

August 12, 1899, I was called to see Mr. G. N., age 59; occupation, painter and paper hanger. Family history good. No tuberculosis in family. One sister dead; died age 60: cause of death, infected varicose ulcer. Patient was never sick until present illness, which followed a severe cold. Symptoms: Coughing almost constantly, profuse expectoration, thick, tenacious and yellow in color. No chill, but fever followed by profuse sweating. Bowels loose, stools light in color. Examination: Skin moist and clammy. Dullness over entire left lung, with crepitant rales.

Heart sounds normal.

Temperature 103.2 degrees, respiration 60, pulse 130.

Urine scanty; no sugar; trace of albumin.

Microscopical examination of sputum: Diplococci, staphylococci and streptococci. As the patient lived eight miles from my office I advised the employment of a physician near at hand.

August 24 I was again called to see case. Patient was sitting almost upright in a large rocking chair (cough increased and breathing laborious when in recumbent position).

Weak, anemic and very nervous.

Temperature 102.8 degrees, pulse 130, respiration 62 per minute.

Night sweats, cough and amount of sputum increased.

Microscopical examination of sputum same as before.

Urine scanty; no sugar; albumin (trace). Stools frequent and light in color.

I again advised employment of physician who would give case close attention. I

heard no more of the case until September 2, when the son informed me the case had been diagnosed pulmonary tuberculosis, and nothing could be done but stimulate the patient and await death. I was again requested to call and urged to take charge of the case, which I consented to do, with Dr. Charles Davison as my consultant.

The symptoms had changed but little since August 24, except increase in quantity of expectorate, which was now about two quarts in twenty-four hours, of creamy, purulent material. Bowel movements twelve to fourteen per day, watery, light in color and some mucus. Temperature 103.6 degrees, respiration 60, pulse 140 per minute. Consolidation of entire left lung. No organic heart trouble; extreme prostration. Examination of sputum, no tubercular bacilli, but great numbers of streptococci.

Diagnosis: Pneumonia followed by streptococcus infection.

We outlined the following treatment: Strychninæ sulp. gr. 1-30 every four hours day and night; syr. ferri iodidi ℥ss every four hours; spts. frumenti ℥i in a glass of milk containing one egg every two hours, night and day. Mutton juice ℥ss every two hours.

September 3, temperature 103.2 degrees, pulse 140, respiration 60; 10 cc. anti-streptococcic serum (P., D. & Co.) was injected in right thigh.

September 4, twenty-four hours after first injection, severe chill lasting one hour, followed by fever. Temperature 104 degrees, pulse 140, respiration 62. This was followed by profuse sweating, lasting two hours, at which time the temperature was 101 degrees, pulse 110, respiration 45. Sputum diminished one-half.

September 5, temperature 102.6 degrees, respiration 50, pulse 120; 10 cc. anti-streptococcic serum was injected in the left thigh. Two hours after this injection patient became very nervous; complained of palpitation of the heart, lasting about six hours.

September 6, patient quite exhausted from lack of sleep. Temperature 100.2 degrees, respiration 40, pulse 92. Cough and expectoration greatly diminished. Expectorate mucoid in character, streptococci greatly diminished in number.

September 7, temperature 99.6 degrees, respiration 32, pulse 100. From this date until September 17 temperature was never above 99.6, respiration 28-30, pulse 90-100.

September 17, slight chill, temperature 101.5. respiration 56, pulse 120. Great increase in cough and quantity of expectorated matter. Microscopic examination of sputum: Great increase in streptococci; 10 cc. anti-streptococcic serum injected into right thigh, followed by slight nervousness.

September 18, temperature 99.6 degrees, respiration 40, pulse 110.

September 19, temperature 102.2 degrees, respiration 42, pulse 112; 10 cc. anti-streptococcic serum injected into left thigh, followed by very slight nervous attack, lasting about one-half hour.

September 20, temperature 99 degrees, respiration 35, pulse 110.

September 21, 10 cc. anti-streptococcic serum injected into right thigh. No after effects; patient had best night's sleep since beginning of sickness. Temperature 99 degrees, respiration 28, pulse 90. Cough greatly diminished, sputum mucoid in character. No more injections were deemed necessary. Strychninæ sulp. was diminished to gr. 1-30 every six hours. Spts. frumenti ℥ss every two hours.

September 27, temperature 98.6 degrees, respiration 20, pulse 80.

October 1, temperature 98.6 degrees, respiration 19, pulse 80. Spts. frumenti has been gradually diminished to ℥i four times a day. Coughs and expectorates very little; sleeps soundly all night; gaining strength rapidly. Case dismissed.

The Post-Operative Treatment of Hemorrhoids.

By J. Rawson Pennington, M.D.
Professor of Rectal Diseases, Chicago Clinical School; Surgeon-in-Chief, Good Samaritan Hospital for Fistula and Other Diseases of the Rectum; Consulting Surgeon, Mary Thompson Hospital for Women and Children, etc., Chicago.

[Read before the American Proctological Association at Columbus, Ohio, June 6-8, 1899.]

At first thought this may seem rather too trivial a subject for consideration. Yet I am sure you will all agree with me that the success of a rectal operation depends quite as much upon careful attention to the after-treatment as to the operation itself. Quite an extensive experience in this special field of labor enables me to make the unqualified statement that many of the post-operative

complications and sequelæ, such as pain, hemorrhage, stricture, ulceration, etc., are due to inefficient after-treatment.

At St. Mark's Hospital, after an operation for hemorrhoids, a small roll of wool is pushed into the rectum, external dressings and a T-bandage applied. To prevent stricture the finger is passed into the rectum after the first week or ten days. This is not only a very disagreeable thing to do, but the pain is most excruciating. Ball dusts the parts with boric acid, inserts a suppository containing one-fourth grain of morphia, applies a pad of cotton or sanitary towel and a T-bandage. Mathews carefully applies strips of iodoform gauze to the stumps, then a pad of cotton and a T-bandage. The dressings used and advised by these two distinguished authorities are practically the same as those recommended in all of our text-books. This method of dressing offers but little prevention to infection, pain, hemorrhage, stricture, etc. I have observed that the principal source of pain after operations upon the rectum, especially for hemorrhoids, is due to the protrusion and swelling of small tabs of skin after the ligature, or the cauterized surfaces after the clamp and cautery have been used. This very painful post-operative complication can be prevented to a great degree by the skillful application of a properly constructed rectal tampon—a most valuable method of dressing which is too little known and practiced. Those who have not used it might think it a source of distress rather than comfort. Quite an extensive experience, however, with this method of after-treatment enables me to state that the rectal tampon, when intelligently applied, is not only well borne by the patient, but makes anodynes rarely necessary. It not only lessens the pain, but it is one of the best possible protections against hemorrhage. It also provides for rectal drainage and is one of the best dressings that can be applied.

I formerly used the method of dressing advised above by Doctors Ball and Mathews; not being satisfied with it, I began using a tampon made by wrapping sterilized or iodoform gauze around a piece of rubber tubing, which was an improvement over the former method. I found, however, as has every surgeon doing much rectal work, that in removing these dressings, whether they were gauze-covered tampons, strips of gauze, cotton or wool, the pain was very great, notwithstanding all manner of injections and soakings were resorted to to loosen them and lessen the pain. Besides, the tender granulation sprouts, which penetrated the gauze dressings, were necessarily broken off during their removal. This caused the wound to bleed and sometimes quite profusely or even dangerously; which not only rendered it more liable to septic infection, but retarded the healing process and lessened the chances for a perfect result.

The tampon (Fig. 1) which I have been

FIG. 1. Author's Rectal Tampon.

using for several months past and has given me the most satisfaction is made by taking a piece of three-quarter inch rubber tubing (R. T.) about 4½ inches long, depending upon the necessities of the case, and attaching a string (S) for anchorage to the distal end. The tube is then wrapped with sterilized gauze or cotton (G) until as large as desired. This filling is now covered with a sterilized rubber covering (R C), which I have had made especially for this purpose by the Miller Rubber Manufacturing Company, Akron, Ohio.

Before introducing the tampon I blow a little iodoform, boric acid or nosophen powder over the field of operation with a powder blower (Fig. 2) made after my own

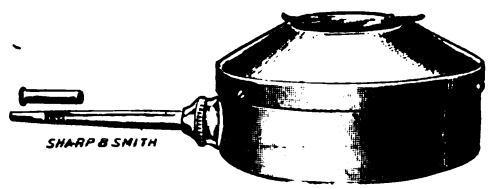

FIG 2. Author's Powder Blower.

design by Sharp & Smith of Chicago. It is so constructed as to require one hand only to manipulate it. With it the powder may be blown far into the rectum or other cavities. Will say, however, in passing, that I have almost abandoned the use of the

former article, especially in private practice, because of its offensive and indestructible odor and occasional toxic effects; will also say that from time to time I have discarded the drug, only to return to it because of failure to find a satisfactory substitute. Boric acid would fill the place most admirably were it not for the fact that it is very irritating to many patients. I think, from quite an extensive clinical experience, I have found in nosophen a very happy and satisfactory substitute. It has neither of these objections, but, on the contrary, seems to be peculiarly and especially adapted to rectal work, because of its combined antiseptic, hemostatic and anesthetic properties. To insert the tampon a bivalve speculum is introduced into the rectum, opened, and the tampon pushed into position between the blades. The speculum is then removed, when the rectal walls adjust themselves snugly to it. Sterilized gauze is then wound around the tube outside the anal orifice and over this is applied a pad of absorbent cotton and the whole retained in position by a T-bandage, which completes the first dressing.

An aperient should be given so as to move the patient's bowels in about forty-eight to seventy-two hours. The dressings should be removed just before defecation, after which the parts should be thoroughly cleansed with either sterilized water or a medicated solution. Dust the parts again with the powder and reapply gauze, cotton and a T-bandage. The wound should now be dressed daily until healed. I make it a rule to try to keep my patients confined to bed for at least a week. Two weeks are better.

Among the many advantages the rubber-covered tampon has over the gauze dressings and the gauze tampons are:

1. It is neater.

2. Its removal is painless, as the granulations cannot and do not penetrate or adhere to the rubber covering as they do the gauze or wool dressings.

3. The tender granulation sprouts are not broken off during its removal; hence there is little or no hemorrhage, which leaves the wound better fortified against septic infection and the healing process is greatly enhanced.

4. There is practically no pain during defecation, a point which seems to us who have seen patients suffer almost unto syncope during the first movement of the bowels, after the removal of gauze dressings, of very great importance.

Columbus Memorial building.

The Treatment of Constipation.

By Jos. M. Mathews, M.D., LL.D., Louisville, Ky. Professor of Surgery and Clinical Lecturer on Diseases of the Rectum; ex-President of the American Medical Association; ex-President of the American Editors' Association, etc., etc.

[A clinical lecture delivered at the Hospital College of Medicine, Louisville, Ky.]

Gentlemen:—During the present session of the school, which is now nearing its close, you have witnessed operations for nearly every known disease of the rectum. I am sure that you are convinced now, if never before, of the absolute necessity of giving some special study to this class of affections. I trust, too, that by this clinical demonstration you will have been profited sufficiently to do many of these operations, thereby relieving a large class of sufferers, a class, too, which has been wonderfully neglected in the past by the profession. You know how common it is for all such affections to be designated as "piles," and the patient to be assured that an ointment will effect a cure. Your experience here will prove to you what an error it is to so classify these troubles. You have seen at these clinics men and women whose lives have been wrecked by the want of proper treatment. Need I mention such formidable diseases of the rectum and colon as tuberculosis, syphilis and cancer, or the so-called minor affections, as hemorrhoids, fistula, proctitis, ulceration, stricture, prolapse, polypoid growths, eczemas, pruritus, etc. Let me beseech you, therefore, not to look too lightly upon this class, but at least give them the benefit of a careful examination before you dismiss them. As the last clinic to be held this session I have summoned a number of patients who are not seriously ill, nor do they need any surgical operation. You see here some aged and some middle-aged, while here to my right is a very young person. Each one of these is a subject of that very common, and, what is generally regarded, very simple ailment—constipation. Before I begin to explain the condition of these patients, or this class of patients, permit me

to say that constipation is a relative term. What is constipation to one is not constipation to another. Very often you will hear a person say, "If my bowels do not move every day I feel badly, headache, languor and tired." Another in apparent good health will inform you that his or her bowels move only on every second, third or fourth day. The late Doctor D. W. Yandell once told me that a patient, in describing her trouble, said that so far as her bowels were concerned she was all right, as they moved with perfect regularity, every two weeks. I have made mention to you of a case treated by me and which is fully described in my work on "Diseases of the Rectum," a young lady whose bowels moved only once every three months, four times a year.

I do not wish you to be impressed with the idea, either, that constipation is a simple thing, for, to the contrary, it is often a very serious affair. I once heard an old physician say that "if his bowels moved in the morning he was sure that he would not die that day." As he is now dead I have wondered "if his bowels moved that day."

Let us for a little time consider the physiology of defecation. The fecal mass has the cecum as its starting point, and when "a call of nature" takes place it means that a peristaltic wave occurs, which moves this mass rapidly through the colon, dropping it into the sigmoid flexure, thence into the rectum. If the "call" is heeded by the individual an "action" is the result. If, through false modesty, atttention to business or general laziness, attention is not paid to this effort of nature, then the watery constitutent, which is the greater, is absorbed and carried into the circulation. In consequence we have an auto-infection which may prove of serious import. You can readily understand that by the absorption of the fecal mass, a poison, the whole general system would be deranged. The red corpuscles of the blood are diseased, altered in color and lessened in power. Hence a sallow complexion, dark rings under the eyes, cold extremities because of less supply of oxygen; lethargy due to vitiated blood and enfeebled corpuscles. The system is not nourished, hence the loss of flesh; the diseased blood circulates through the nervous system, and there is in consequence nervous depression —we might say nervous exhaustion—the pulse is slow and easily compressed; the organs of digestion and assimilation are lowered; there is loss of memory, no concentration of thought, and a great disposition to drowsiness. Notwithstanding that these patients are generally "sleepy," they are not relieved by sleep. All the functions are unsatisfactorily performed. If this condition is not relieved, disease and suffering must be the result. There is another phase of constipation that I would have you consider. We have stated that the liquid contents of the fecal mass is absorbed, the solid portion remains in the flexure and rectum. Daily and weekly this dried mass is added to, and in consequence we have the whole pelvic circulation deranged; external piles are produced, internal piles are made to bleed; atony of the coats of the bowel takes place, congestion, inflammation and ulceration may result. Truly, then, constipation is no "light" matter. What, then, shall we do for this condition? I once heard a doctor say that he would give a thousand dollars for a "specific" for constipation. I really believe the investment would have been a good one, when we consider how many people are thus affected.

Before attempting to map out any line of treatment, I wish to impress upon you that you should diagnosticate between what is known as obstipation and constipation. The former may arise from a mechanical cause, as an irritable and contracted sphincter, a stricture or growth in the rectum, and some believe that the valves of the rectum play a part here. Of course, if either one of these conditions are detected you should turn your attention to their removal, for the obstipation is only secondary to them. I have relieved many cases of so-called constipation by dilating the sphincter muscle. But what should be done in a medical way to eradicate this condition? Let me say that you will find as most excellent adjuvants in the treatments of many of these patients: electricity, massage of the abdomen, cold baths and exercise. Every physician seems to have some favorite prescription, in the form of pill or solution, but they are constantly informed that "they have lost their power." Of course you have heard that the "regular habit" should be indulged in; that enemas are good under certain conditions, and a pill is necessary. But do such effect a cure? Very rarely.

Each case must be studied as an individual one. Fat people as well as the lean are affected in this way—the young as well as the old. Women are more given to the habit than men, and I believe the reason to be that they are possessed of a womb. You will often find that a displaced uterus, or an enlarged one with adhesions, is responsible for the constipated condition. It is common with young school girls, who, in the rush to get early to school, neglect the very important duty of having their bowels move in the early morning. Among the serviceable drugs in the treatment of this affection you will find the following: Cascara sagrada, sulphur, belladonna, nux vomicæ, sulph. iron, buckthorn, ipecac, magnesia, the mineral waters, and many others either alone or in combination.

But let me impress upon you the necessity of making a more thorough study of such a case. If the patient who consults you is really desirous of getting well he should at least give you a fair chance to cure him. Supposing then that you have such consent, I would advise you to proceed in the following way: First try and ascertain what is the cause of the constipation. In this connection I wish to state that after an examination and observation of these cases extending over twenty years, I am forced to believe that the majority of them have as a basis constitutional derangement. In trying to solve the problem, it was observed that many of these patients were of a rheumatic or gouty diathesis. Acting upon this hypothesis, I have treated them by combating this special trouble and have found that in many cases the constipation would take care of itself. There are many preparations that you can use for this purpose, but the best is some form of lithia. Waters containing this salt will be found of service if taken in large quantities and for a long period of time. However, in my own practice I prefer to use the drug in a more concentrated form. I have, therefore, been using for some time a preparation of lithia known as thialion, with a marked degree of success. I direct that it be taken in teaspoonful doses, given in a full glass of hot water, taken before each meal. My theory is that in the rheumatic or gouty subject the intestines are brought under these same conditions that the disease or diseases are made manifest in other portions of the body. The muscular coat of the intestines is particularly affected by this gouty condition, and in consequence loses its contractile power. Anyway, I have cured patients of the confirmed constipation habit by this drug alone. To proceed, I would say to the patient that he must submit to my directions. You will find that in lieu of the rectal enema, that if a high enema is given through a Wales bougie, say of a half to a gallon of water, two or three times a week, it will be much more satisfactory. The object is to replace the amount of water which has been lost by absorption of the feces. A fruit diet, together with the drinking of large quantities of water, should be enjoined. Massage of the abdomen by the patient himself, who should be taught the route of the colons, should be advised. The sweets should be forbidden and only plain, nutritious diet observed. I consider the administration of drastic purgatives harmful rather than beneficial. If you will watch this class of patients as carefully as you would any other chronic one, you will be rewarded by success. I beseech you not to get into the habit of prescribing for them in a routine way, for if you do they will soon desert you, and go elsewhere; besides, you will do them no good.

The Chicago Clinic.

A HIGH-GRADE MONTHLY PERIODICAL DEVOTED TO THE MEDICAL PROFESSION.

J. HOMER COULTER, M. D., Editor.

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THE PUBLIC VACCINATOR.

The way of the "public vaccinator," like the "way of the transgressor," is hard. It falls to his lot to vaccinate the "conscientious objector," the improvident, the poor, and the "unsoaped" generally. A part of the foreign population of Chicago does not believe in vaccination. These people are *vigorous* objectors. The public vaccinator is regarded as anything else than a benefactor. But for the law compelling children to be vaccinated before admission to school, a very large number would grow up unprotected—a serious menace to the health of the community in the future. The fluid vaccine—or glycerinized vaccine—is safe, and if properly and freshly prepared, perfectly reliable. To school and public vaccinators it is of very great importance that the virus supplied by the Board of Health be fresh and good. If the first attempt at vaccination fails, it is difficult and sometimes impossible to get the opportunity to make the second effort. It is a matter of regret to all who have the welfare of the community at heart that the "conscientious objector" is fortified in his mistaken conclusions by a very few physicians who dispute the protective value of vaccination for the sake of the notoriety that it brings them. But then you know men once disputed the rotundity of the earth.

FORMALDEHYDE.

Formaldehyde or Formalin is one of the most useful chemicals introduced to the profession in recent years. It is an aqueous solution of formaldehyde gas—40 per cent. That is the limit of its solubility in water. It is not very irritant, non-toxic and non-corrosive. It is applied in vapor or solution. In surgery it is used in one-fourth to one-half per cent solution. As a food preservative one part to one hundred thousand is sufficient. It is very useful to preserve urine for future examination. Two or three drops to an ordinary sized bottle is enough to preserve the urine indefinitely. It will not interfere with any known test. It has supplanted sulphurous acid gas (the product of burning sulphur) in the disinfection of rooms. It is not so dangerous as sulphur nor so unpleasant. It does not fade wall paper or injure the color or texture of fabrics. It is cheap. There is no danger from fire, as with sulphur. It is easily used. It is only necessary to hang up sheets saturated with it and to see that the room is tightly closed, and that it remains so for some hours.

VITAL STATISTICS.

Vital statistics extending over a course of years, if trustworthy, are of inestimable value to a municipality. If not trustworthy such statistics are only misleading. Every physician in making a death return should exercise great care to make such return express the exact facts in the case. Only by so doing can there be built up in the course of years a collection of statistics of value to the profession. As a matter of fact there is much laxity in this matter. The attendant is careful always to make a return that will "pass the Coroner's office,"

but such return will not always bear scientific investigation. It would be well if autopsies were more frequently held. By such means the value of statistics would be greatly added to, as would also the physician's knowledge of pathology. The effort should be made to collect accurate death returns from all country districts as well as cities. At present, with few exceptions, this is not done. If the importance of this matter is impressed upon country physicians they will probably co-operate.

THE TRAINED NURSE.

The trained nurse—bless her!—is the one ray of sunshine that crosses the physician's pathway. What would we do without her? Does she not sustain the hapless invalid with hope when we are absent? Does she not smell the bottle and assure the patient that "It's just the thing for rheumatiz?" And that "Never you fear, Dr. Jones knows what he's about?" Let us, for the good she does, remember her in our prayers. But, seriously, are we not over-educating her in some ways, and under-educating her in others? Is it best to lecture her as a medical student? She does not need to know the points of differential diagnosis between Locomotor Ataxia and Anterior-polio-myelitis. But she should know just when to turn a flap-jack. If she broils a beefsteak properly for our patient, it should not be a matter of accident or luck, but of scientific accuracy. She should know the proximate principles of our food products and what treatment is best suited to each article to render it palatable and digestible. The chemistry of cookery is a broad subject and an important one. She should master it.

PHILADELPHIA WATER SUPPLY.

Philadelphia's water supply is a settled matter—at least so far as the report of the commission of experts, appointed by the mayor, is concerned. The commission favors sand filtration. Years ago Philadelphia's water supply was irreproachable. The vessel that put to sea with a supply of Schuylkill water felt sure of a propitious voyage. Typhoid was almost unknown. But Philadelphia has shared the fate of all river towns. She is drinking the sewage of the towns above. Reading and Norristown have grown from hamlets to cities, and towns innumerable have sprung into existence where none existed before. The river that carried the melted snow of the Blue Mountains in its original purity to the city, now carries only diluted sewage. Cincinnati is facing the same problem. New York feels that it could better afford to buy the whole water-shed of the Croton river than to put up with the present contamination. Can we wonder that St. Louis stands aghast at the thought of having the sewage of two million Chicagoans lap her placid shores? Let us hope that she does not know as much as some of us do about the filth-producing qualifications of a large part of our two millions, or her rather mild protest would swell into an indignant roar.

WAR TAX ON PATENT MEDICINES.

The M. V. M. A. very properly refused to indorse a resolution asking the government to take the war tax off of patent and proprietary medicines. The government should be upheld in its efforts to collect sufficient revenue with which to conduct the war that has been forced upon us, to a successful termination. Nothing consumed by our people is more able to bear such a tax. At any rate if "patent" medicines were taxed out of existence it would conserve to the public good.

In the August number of the Chicago Clinic was published an article by Dr. W. T. Eckley entitled, "Dislocations of the Femur." In this issue we publish an article on "The Anatomy of Varicose

Veins," by the same author, and it is our purpose in succeeding issues to report all of Dr. Eckley's lectures to the anatomical class of the Chicago Clinical School. The article on Dislocations of the Femur was the subject of much favorable comment, and this fact, coupled with the known excellence of Dr. Eckley's work, leads us to believe that every reader of the Clinic will appreciate the reports of these lectures, beginning with the October issue.

CHICAGO CLINICAL SCHOOL.

The following operations were performed during the month of August at the Chicago Clinical School, before the post-graduate students in attendance. Compiled by Senior Interne Dr. Witherspoon:

1 Perineal Cystotomy.
1 Noma.
4 Tubercular Adenitis.
1 Arthrectomy—Knee Joint.
8 Perineorraphy.
7 Trachelorrhaphy.
1 Compound Fracture of Tibia.
1 Circumcision.
4 Hemorrhoids—Ligation.
2 Hemorrhoids—Clamp and Cautery.
9 Appendectomy.
2 Fistula in Ano.
1 Castration.
1 Extra-uterine Pregnancy.
1 Hematoma—Left Broad Ligament.
1 Prostatic Abscess.
1 Dislocation of Shoulder.
14 Currettement.
1 Fracture of Humerus.
7 Herniotomy.
6 Varicocele.
1 Osteo-myelitis.
1 Perinephritic Abscess.
1 Resection of Dental Nerve.
2 Cleft Palate.
1 Uterine Fibroid.
1 Nephrotomy.
3 Sarcoma of Neck.
6 Uterine Suspension.
5 Ovariotomy.
2 Alexandrian.
5 Ovarian Cyst.
2 Gastro-Enterostomy.
1 Inguinal Adenitis.
1 Nephroraphy.
3 Pyosalpinx.
2 Cataract Extraction.
1 Rice Body in Knee Joint.
1 Abdominal Hysterectomy.
1 Tubercular Abscess.
1 Hypospadias.
2 Supra-pubic Cystotomy.
1 Fecal Fistula.
1 Sebaceous Cyst.
3 Tenotomy—Tendo-Achillis.
1 Ischiorectal Abscess.
1 Pelvic Abscess.
1 Vaginal Hysterectomy.

Dr. F. Kreissl, Professor of Genito-urinary Surgery in the Chicago Clinical School, has just returned from his summer vacation in Switzerland.

Mr. C. T. Garrard, Superintendent, and Dr. W. L. Lambert, Secretary, of the Illinois Charitable Eye and Ear Infirmary, have gone to New York, Philadelphia, Boston and Washington to inspect similar institutions.

Under the administration of the present board of trustees and the reorganized medical staff this institution has been placed in the best condition of any institution of the kind in the United States.

Two new operating rooms have been added and the old ones reconstructed with the latest and most improved equipment, a new pathological laboratory, a sterilizing room and sterilized water throughout the building.

Dr. Arthur R. Edwards, professor of internal medicine in the Chicago Clinical School, is about to leave for a year in the German, French and Swiss schools of medicine.

ABSTRACT.

Glycerinated Vaccine Lymph.

Albert C. Barnes, M. D., in the September number of the "American Gynecological and Obstetrical Journal," publishes collective reports on Glycerinated Vaccine Lymph as follows:

The recent widespread epidemic of small-pox in the United States has necessitated general vaccination, which has afforded excellent opportunities to determine the exact actual and comparative value of glycerinized vaccine.

For the past ten months I have been collecting reports from various infected districts in an effort to ascertain not only the actual value of glycerinized vaccine as a protective against small-pox but its relative value compared with vaccine points, quills, crusts, and the older methods of producing vaccination.

Other objects to be determined were: (1) The value of glycerinized vaccine as a preventive of small-pox; (2) the proportion of successful "takes" in both primary and secondary vaccinations; (3) the relative frequency of complications, such as diffuse inflammation of the vaccinated area—cellulitis, lymphangitis, lymphadenitis, ulcerations, abscesses, etc.—which so often follow the use of vaccine points.

The methods of inquiry adopted in this investigation were by circular-letter and personal inquiry by large numbers of physicians throughout the country.

In a certain number of cases where wholesale vaccination was practiced, as for instance by health authorities, exact figures could not, for various reasons, be obtained. However, in such instances, the reports were conservative and were none the less illustrative and convincing.

In Baltimore, where for several months there has been a number of cases of small-pox, there were employed by the health authorities and physicians in private practice considerable over 100,000 tubes of glycerinized vaccine. Those vaccinated were periodically observed until the success or failure of the vaccination was determined. In not a single instance did small-pox occur in a person vaccinated with glycerinized lymph. Conservative estimate places the number of successful takes as 95 per cent in primary cases. The vesicles in most instances were typical and uncomplicated with staphylococcic and streptococcic infection. The number of excessively sore arms did not exceed one per cent of the total number vaccinated.

In Minneapolis, in one series of 3,045 vaccinations with glycerinized lymph, there were 29 failures, all of which were in secondary cases, i. e., those who had been previously vaccinated. In the same city a second series of 3,875 vaccinations resulted in four failures in primary cases and in 51 failures in secondary cases. All the data collected from Minneapolis show a proportion of 95 per cent successful "takes" in primary cases and 75 per cent in secondary cases.

Cleveland records show that widespread vaccination was practiced. Both glycerinized vaccine and points were employed at the beginning until results proved the vast superiority of the glycerinized lymph when points were almost entirely abandoned.

In one series of 20,000 cases vaccinated with the glycerinized product, there was an average of over 90 per cent successful takes. Septic complications were almost entirely absent.

In Richmond, Norfolk and Portsmouth, Va., no accurate records were kept of results obtained, but in these three cities there were employed about 120,000 tubes of glycerinized lymph. Extensive inquiry concerning results obtained places the successful takes over 90 per cent. In these cities the superiority of the glycerinized lymph over the points, in producing successful vaccinations and avoiding septic complications, were everywhere noted. The experience of the health authorities and physicians in private practice in Norfolk is particularly valuable. At the beginning of the small-pox outbreak, vaccine points of a standard make were employed extensively. In a large number of cases, small-pox in a virulent form occurred among patients who had been vaccinated with points. This shows that the inflammatory reaction which took place at the site of vaccination was due to staphylococcic infection and was not true vaccination.

From Philadelphia, Indianapolis, Chicago, Gloucester County, Va., Pittsburg,

Allegheny, Standwood, Ia., Lisbon, Ia., and over 40 small towns throughout the country, responses to inquiry show that while no accurate records were kept, the glycerinized vaccine, in comparison with points, had proved so superior in producing successful vaccinations (averages from 90 to 95 per cent) and in affording freedom from septic complications, that points had been largely abandoned in those places in which comparative tests had been made.

In Porto Rico, under the supervision of Dr. George G. Groff, Major and Brigade-Surgeon U. S. A., extensive vaccination was practiced. Vaccine points in this climate failed entirely, while glycerinized vaccine yielded about 90 per cent of successful vaccinations.

Dr. R. T. Hammond, Jessup, Md., had vaccinated 236 patients with glycerinized lymph and had but one failure; no excessively sore arms resulted.

A series of 70 vaccinations in private practice in Indianapolis, with glycerinized lymph, showed successful takes in all but one case. No septic complications.

Dr. F. V. Ely, Pittsburg, secured 36 successful takes in a series of 40 vaccinations with glycerinized lymph. This is remarkable, inasmuch as at least one-third of these cases were secondaries.

Dr. F. A. Crosby, Beach Ridge, N. Y., reports 100 per cent successful vaccinations with glycerinized lymph in a series of 60 cases. Sore arms were not noted.

Dr. G. G. Rusk, Baltimore, vaccinated 360 persons with glycerinized lymph and obtained a successful "take" in every instance.

Dr. C. T. Mattefeldt, Catonville, Md., employed glycerinized vaccine in a series of 157 cases, 20 per cent of which were secondaries; 155 successful vaccinations resulted.

Dr. D. W. Dodson, Nanticoke, Pa., reports that in a series of 250 cases he secured 100 per cent successful vaccinations with glycerinized lymph.

Dr. J. R. Faust, Mann's Choice, Pa., vaccinated 130 school children and teachers, every one of which were successful.

Dr. A. J. Taylor, member of Board of Health, Caribou, Maine, reports 200 primary vaccinations with 30 failures: of the latter 27 were vaccinated with 14 successful "takes." This experience shows the value of revaccination in those cases in which successful result did not follow first vaccination. The average in this series of cases was over 90 per cent successful "takes."

Dr. W. F. Beyer, Punxsutawney, Pa., vaccinated 300 cases, primary and secondary, and secured 98 per cent successful "takes"—in other words there were but six failures.

A large number of other private reports show that glycerinized lymph yielded from 90 to 100 per cent of successful takes in primary cases and from 60 to 75 per cent in secondaries.

Conclusions: This investigation proves conclusively that the recommendation of the United States Marine Hospital Service that "glycerinized vaccine only should be employed" ("Public Health Reports," January 9, 1899) is well substantiated by experience, because:

1. Properly prepared glycerinized vaccine is pure and free from staphylococci, streptococci, and other pathogenic organisms which are invariably found (Copeman, Crookshank, Pfeiffer, Reed, U. S. A.) on vaccine points.

2. Glycerinized vaccine affords absolute protection against small-pox; vaccine points are uncertain in this regard.

3. Vaccination with the glycerinized products does not cause excessive inflammation of the vaccinated area. Cellulitis and inflammation of the lymph vessels and glands amounting at times to abscess formation is a not infrequent sequence of the use of vaccine points.

4. Vaccine points are apt to lead to a false sense of security, inasmuch as they induce a local staphylococcic or streptococcic infection which is entirely distinct from true vaccination. Such a result is not protective against small-pox.

5. A high estimate of successful takes from vaccine points is by these and numerous other reports shown to be not over 60 per cent in primary cases and a much lower percentage in secondary cases.

6. Glycerinized vaccine has been officially adopted by the governments and health authorities of the United States, Great Britain, Germany, France, Russia and Belgium. It should be universally adopted in private practice.

The Use of Formaldehyde Gas as a Disinfectant for Dwellings, Vehicles and Household Goods.

Park of New York makes a report on the subject to the Medical News of May 13, 1899. As a result of the investigations undertaken in the Department of Health laboratories on the use of formaldehyde as a disinfectant, and a consideration of the work of others, he believes correct conclusions may be summarized as follows:

1. Disinfection of Infected Dwellings.—Exposed surfaces of walls, carpets, hangings, etc., in rooms may be superficially disinfected by means of formaldehyde gas, all apertures being tightly closed, when employed in the proportion of twelve ounces of formalin or five of paraform to each 1,000 cubic feet; the time of exposure to be not less than four hours, and the temperature of the apartment not below 52 degrees F. Under these conditions non-spore-bearing bacteria are entirely or almost entirely destroyed when freely exposed to the action of the gas. Spore-bearing bacteria, such as anthrax bacilli, are not thus generally destroyed. But these latter are of such rare occurrence that in house disinfection they may practically be disregarded, and if present special measures can be taken to destroy them.

The penetrative power of formaldehyde gas at ordinary room temperature, even when used in double the strength necessary for surface disinfection, is extremely limited. Articles, therefore, such as bedding, carpets, upholstery, clothing, and the like, should when possible be subjected to steam, hot air or formaldehyde disinfection in special chambers constructed for the purpose. If not, they must be thoroughly exposed on all sides. Diphtheria bacilli are fortunately among the most easily destroyed bacteria.

2. Disinfection of Bedding, Carpets, Upholstery, Etc.—Bedding, carpets, clothing, etc., which would be injured by steam, may be disinfected by means of formaldehyde gas in the ordinary steam disinfecting chamber, the latter to be provided with a heating and vacuum apparatus and special apparatus for generating and applying the gas. The gas should be used in the proportion of not less than tenfold the amount used for surface disinfection, the time of exposure to be not less than eight hours, and the temperature of the chamber not below 110 degrees F.

In order to insure complete sterilization of the articles they should be placed so as to allow of a free circulation of the gas around them—that is, in the case of bedding, clothing, etc., these should either be spread out on perforated wire shelves or loosely suspended in the chamber. The aid of a partial vacuum facilitates the operation. Upholstered furniture and other articles requiring much space should be placed in a large chamber, or better, in a room which can be heated to the required temperature. The most delicate fabrics, furs, leather and other articles which are injured by steam, hot air at 230 degrees F., or other disinfectants are unaffected by formaldehyde.

3. Disinfection of Books.—Books may be satisfactorily disinfected by means of formaldehyde gas in the ordinary steam chamber as above described, and under the same conditions of volume of gas, temperature, and time of exposure. The books should be arranged to stand as widely open as possible upon perforated wire shelves set about one or one and one-half feet apart in the chamber. A chamber having a capacity of 200 to 250 cubic feet would thus afford accommodation for about sixty books at a time. Books cannot be satisfactorily disinfected by formaldehyde gas in houses and libraries, or anywhere except in special chambers constructed for the purpose, because the conditions required for their disinfection cannot otherwise be complied with. The bindings, illustrations and print of books are in no way affected by the action of formaldehyde gas.

4. Disinfection of Carriages, Etc.—Carriages, ambulances, cars, etc., can be easily disinfected by having built a small, tight, brick building, in which they can be inclosed and surrounded with formaldehyde gas. Such a building is used for disinfecting ambulances in New York City.

5. Advantages of Formaldehyde Gas Over Sulphur Dioxide for the Disinfection of Dwellings.—Formaldehyde gas is superior to sulphur dioxide as a disinfectant for dwellings, first, because it is more effective in its action; secondly, because it is less injurious in its effects on household goods; thirdly, because, when necessary, it can easily be supplied from a generator placed outside of the room and watched by an at-

tendant, thus avoiding, in some cases, danger of fire. Apart from the cost of the apparatus and the greater time involved, formaldehyde gas generated from commercial formalin is not much more expensive than sulphur dioxide, viz., 20 cents to $1 per 1,000 cubic feet, against 10 cents with sulphur.

Formaldehyde gas is the best disinfectant at present known for the surface disinfection of infected dwellings. For heavy goods it is far inferior in penetrative power to steam and dry heat at 230 degrees F., but for the disinfection of fine wearing apparel, furs, leather, upholstery, books, and the like, which are injured by great heat, it is, when properly employed, better adapted than any other disinfectant now known.—Therapeutic Gazette.

Dr. F. Montizambert (Director-General of Public Health, Ottawa) related an experience with the employment of this disinfectant in an outbreak of small-pox on board the steamship Lake Huron, twenty-five days out from port on the Black Sea, with 2,400 Doukhobors on board. On the 6th of June last the vessel was ordered into quarantine, and all of the passengers were landed by the 9th instant, and the vessel was fully and completely disinfected by Monday and Tuesday following, the 12th and the 13th. A new crew was in charge on Wednesday, the 14th, at 4 p. m. Formaldehyde in solution was used for the saloons and staterooms and in all parts where the fittings would be destroyed by steam. Steam is not suitable for large rooms, as the temperature cannot be kept up. Formaldehyde, therefore, was used on this occasion and the total measurement of surface on which it was employed was over 200,000 feet. Twelve ounces of this solution was allowed for each 1,000 cubic feet of space. Two new sets of men paraded, occupied, lived and slept in the vessel from two to four days after seventeen cases of small-pox had been removed and there were 2,400 people on board. That was a severe test. He was happy to be able to state that there has not been reported a subsequent case of the disease during two and a half months that have since elapsed. —Dominion Medical Monthly. (Read before Canadian Medical Association.)

Floating Kidney Simulating Diseases of the Genital Organs in Women.

Dr. A. Lapthorn Smith (Montreal) says in a paper read before the Canadian Medical Association:

1. Movable kidney is a much more common disease than is generally supposed, occurring in about one in two hundred and fifty cases in general practice, and in about one in five of the women who consult the gynecologist. It is much more frequent in women than in men; it occurs more often on the right side than on the left; less frequently still on both sides at once, and very rarely on the left side alone. It is important that it should be recognized oftener, because it gives rise to symptoms very similar to those produced by lacerated cervix and other diseases of the genital organs.

2. The causes are (a) loss of perirenal fat; (b) violence, either in the form of a blow on the loins, but more often by the sudden jerk of jumping or prolonged vomiting; (c) frequent pregnancies causing relaxation of the abdominal walls; (d) tight lacing, which forces down the liver, and the liver pushes down the kidney; (e) the kidneys are heavier during menstruation, which therefore is a contributory cause.

3. The symptoms are disorders of all the organs supplied by the great sympathetic and pneumogastric nerves, which go to form the solar plexus. As the movable kidney sometimes slips back into place when the patient assumes the recumbent posture, the symptoms may be absent while she is in this position. She cannot sleep on the left side because then the kidney slips out and begins to drag on the nerves, thus setting up the whole train of symptoms. The symptoms are much worse when the woman walks or works, as the kidney then falls as far as its pedicle will let it go and the dragging on the solar plexus causes gastric pain, dyspepsia, constipation or diarrhea, palpitation of the heart and a smothering feeling, headaches, and finally hypochondria. All the symptoms are worse during menstruation, when there is in addition a pain in the back and down the thighs.

4. The signs are a tumor the size and shape of the kidney, which, in most cases, because women are thin, can be distinctly felt in some part of the abdominal cavity, sometimes as low down as the right iliac region and even as the left, and occasion-

ally in the pelvis. It can be grasped in the hand, and when squeezed gives rise to a sickening sensation and pain down the back and thighs. The tumor can generally be pushed back to its proper place, only exceptionally forming adhesions to distant organs, which would prevent its replacement. It varies greatly in size at different times, being larger during menstruation, and when the ureter becomes kinked or bent on itself, in which case, and when it becomes twisted on its pedicle, it forms a tense globular tumor accompanied with severe symptoms resembling an acute attack of peritonitis.

5. The diagnosis is very important, because a great many patients have been treated successfully for some gynecological diseases, such as retroversion of the uterus, and yet the patient has continued to complain as much as ever, while many more have been treated for a long time for some gynecological disease which they did not have, and have even had their ovaries removed, only to have their sufferings increased. The diagnosis is easy, and the errors which have been committed have arisen from the possibility of this condition not having been present to the mind of the practitioner rather than from the inherent obscurity of the case. In every case, therefore, of reflex disturbances pointing to pelvic trouble, the examination must not be considered complete until the position of the right kidney has been ascertained. The patient is placed upon her back with her head raised and her thighs flexed, so as to relax the abdominal walls as much as possible; the examiner sits at her right side and facing her, pressing his left finger firmly into the small of the back, while the right fingers try to meet them under the ribs in front. The writer has also found the left lateral position convenient, but the best position in doubtful cases is to have the patient standing, leaning over with her hands on a chair, thus relaxing the abdominal muscles, and at the same time giving the kidney an opportunity to fall. In general terms, we may say that a kidney which is movable is easily felt; while on the other hand, a kidney which cannot thus be felt is not movable.

6. The treatment consists, first, in getting the woman fat by any means in our power. As she cannot digest while the kidney is down, it is necessary to keep her in bed during the attempt to fatten her; the Weir-Mitchell treatment is sometimes successful. Second, many women lose all their symptoms during the latter half of pregnancy because the rising uterus crowds the kidney up. In those in whom this treatment is not available we may resort to a large soft pad of curled hair, or an inflated rubber ball, which is placed in the right hypochondrium after the kidney has been replaced, which pad is held firmly in position by a broad elastic bandage encircling the whole of the abdomen. The writer has found the small pads usually sold for this purpose utterly useless, as it allows the kidney to slip out from under it. An elastic abdominal supporter, with a large pad under it crowding up the bowels is much more comfortable. Third, the best treatment, and one which, in the majority of cases, gives instant relief, and soons brings about a permanent cure, is nephroraphy or stitching the kidney to the back. The incision should extend from the last rib down to the crest of the ilium, just outside of the erector spinæ and quadratus lumborum. The kidney must be pushed up by an assistant toward the operator, who first feels it with his finger and then grasps it with a bullet forceps. The capsule is split up along the whole of its convex border and turned aside so as to expose a strip of the kidney half an inch wide; the needle should enter the kidney substance about a quarter of an inch deep and should include the transversalis fascia. As these stitches are to remain buried in the tissues, only well sterilized silk worm-gut sutures should be used. The peritoneal cavity should not be opened; there should be no mortality, and the buried stitches should not give any trouble in more than five per cent of the cases. If one should suppurate, it can be easily removed with a crochet needle. The result of the operation has been very satisfactory in the seven cases in which the writer has performed it. Three of the patients had already undergone several gynecological operations, including removal of the ovaries and ventrofixation, one of them by the writer, without having been cured. These patients affirmed soon after the operation that the real cause of their trouble had been discovered at last, and that they were for the first time free from the dragging pains from which they had suffered for several years.

Physician as Teacher of Hygiene.

Dr. Edward Jackson of Denver, Colo., has the following to say upon the subject of the physician as a teacher of hygiene in the last number of the "Bulletin of the American Academy of Medicine:"

"At the present time hygiene is practically a special branch of medicine in its wider sense. Of the most active members of the American Public Health Association more than 90 per cent are doctors; while the engineers, chemists, and biologists working upon the problems of public health, work in intimate association with medical thought. Personal hygiene and physical training are even more intimately associated with medicine. Of the need of a wider teaching of hygiene in the community, and a keener and more constant appreciation of its requirements in all departments of daily life, we are all cognizant. The great advances of hygienic science are a mockery without the practical application of the truths learned, to daily life, and consequent gains in health and vigor somewhat commensurate with our claims of progress. But the gains through the preservation of many comparatively feeble lives from extinction as by cholera infantum, diphtheria and other specific diseases, fail to balance the inroads made on the general health and vigor of the people in other directions. Every older country with a civilization closely allied to our own, already shows unmistakable evidences of racial degeneration. Our statistics are so imperfect, the mixture of peoples in America is yet so recent and incomplete, that it is difficult to say whither we are tending. But already in the older portions of our country, and especially among the more intelligent and well-to-do, the birth-rate has fallen below what is necessary to sustain the population at a fixed level, a sign most significant of racial degeneration.

"The teaching of hygiene has been both deficient in amount and one-sided. From the standpoint of racial health and vigor, of what avail is it to save from cholera infantum and diphtheria merely to swell the number of cripples, consumptives, and the insane? How insufficient to improve the street paving and the sewage system, for men and women who work with the needle 16 or 18 hours a day and live on bread and tea, at one end of the social scale; or who do not work at all and live on the thousand stimulants of diet and amusement, at the other end. The lessons of disease clearly caused by transgression of hygienic law in palace or tenement house, paraded day by day before the medical profession, need to be taught with all the emphasis and persistence of which we are capable, to the race, in the survival or extermination of which the continuance of our own blood and thought are inevitably involved.

"In view of this it is not a cause for pride that the teaching of physiology and hygiene was fixed in the public school system of many of our states, not by the medical profession for good reasons that it might so clearly see, but as a basis or cover for the teaching of certain extreme views regarding the action and dangers of alcohol and other narcotics. But whatever our neglect in the past, much remains to be done to improve that teaching and give it greater practical value. Even from the standpoint of those who simply wage a crusade against the use of alcoholic beverages, the perfunctory going over the subject with a text-book to comply with the law is greatly inferior to broader teaching that would awaken the interest of the scholar in all the healthy workings of the human body. And the careful elimination of false or destroying statements must, in the end, develop a better appreciation of the truth about the dangers of narcotics, which is somber enough without any exaggeration.

"In spite of the intemperate activity of 'temperance' workers there remains great need for doctors to teach the truth about drug habits, and the effects of self-drugging, whether practised by the aid of the hypodermic needle, the beer glass, or the proprietary medicine."

Intussusception.*

Dr. J. C. Munro, in the "Philadelphia Medical Journal," says: "Over 500 cases of intussusception have been reported during the last twenty-five years, three-fourths of them occurring in infants. All cases should be considered as surgical from the beginning. As in appendicitis, every case may

* Author's resume of paper read at Annual Meeting of the Massachusetts Medical Association, Surgical Section, on June 13, 1899.

not demand operation, but the responsibility should be placed in the hands of one ready and able to operate at the earliest opportunity. The invagination in over half the cases is in the ileo-cecal region, the stomach very rarely and the jejunum rarely being affected. Spontaneous recovery may take place by disinvagination or separation of the inner tube, but in many such cases the patients die later of perforation, stricture, etc.

"Treatment by injection is justifiable in chronic cases, when the patient refuses operation in acute cases, when beyond surgical aid, and within a few hours after the onset of the attack. All authorities urge operation as early as possible in acute cases, and at once after trying a simpler procedure, such as injection. In chronic cases it is unwise to delay over a week, watching the patient carefully meanwhile. The supplying of an artificial anus has very little to recommend it, with scarcely a recorded recovery in an acute case. Enteroanastomosis has but little more in its favor, less than a dozen recoveries being reported in acute cases. Disinvagination is the ideal operation. Chronic cases are not necessarily difficult to reduce. With adhesions, tumors, necrosis, etc., partial resection by the methods of Maunsell or that of Rydygier, or complete resection, is in order.

"As most data are based on intussusception in infants, a consideration of the cases reported in adults, especially when in the jejunum, is made. In addition to Braun's table (1885) and Rydygier's table (1895), 14 more cases of resection or reduction have been reportel, making a total of 72.

"Of 21 recoveries after reduction—including cases of Percival, Stretton and Barker—13 were ileo-cecal or colic, 4 iliac, 1 jejunal and 3 unknown. Thirteen were chronic, 7 acute and 1 unknown. Of 13 fatal reductions, including cases of Davies-Colley, White and Richardson, 9 were ileo-colic, one each iliac and jejunal and 2 unknown; 7 were acute and 6 were chronic. Of 17 recoveries after resections, including cases of Hartley, Wassiljew and Munro, 14 were ileo-colic and 1 each iliac, colic and jejunal. Six were acute and 9 chronic, with 2 unknown. Of 21 fatal resections, including cases of Abbe, Senn, Robson and Munro, 9 were ileo-colic, 7 iliac, 1 colic, 2 jejunal and 1 unknown; 14 were acute, 5 chronic and 2 unknown.

"The jejunum was involved in only five cases, as follows:

"1. White, acute, died on table.

"2. Stutsgaard, died of peritonitis after resection of 128 cm.

"3. Robson, died after resection of 4 feet, and end-to-end anastomosis.

"4. Borch, acute ileo-jejunal, recovered after disinvagination.

"5. Munro, chronic, with acute exacerbation, recovered after resection of 32 inches.

"The earlier recoveries were almost all easy reductions. The early resections were almost uniformly fatal, but with improvement in technic, etc., the mortality has fallen nearly half and in all probability will never be much less, because with earlier diagnosis and operation resection will be replaced by reduction.

"Two cases occurred at the Boston City Hospital in patients under my personal charge. One, resection in an acute invagination of the lower ileum, with end-to-end anastomosis, a man 37 years old, died in 60 hours of rupture of intestine proximal to the joint.

"The other, an acute exacerbation in a chronic intussusception, in a Chinaman, 21 years old, ended in recovery after resection and end-to-end anastomosis. Six days after the first operation leakage of bile and pancreatic fluid took place from an opening proximal to the joint. A second anastomosis was made at the point of rupture, but again six days later leakage occurred. The fistula closed in about five months and the patient was discharged fat and well."

Exophthalmic Goitre.

Dr. Cox, in "Maritime Medical News," in an article on Exophthalmic Goitre, says:

"Under the name of Grave's disease or exophthalmic goitre we designate a group of symptoms, the chief of which are increased size of the thyroid gland, an accelerated pulse and exophthalmos—protrusion of the eyeballs. A number of other disturbances are usually met with, chiefly in the nervous and circulatory systems, but these are usually secondary and not characteristic of the disease."

Then, after discussing the many theories held by different authors in regard to the cause of the disease, he gives his own experience with one case:

"The theory of systemic infection by the

absorption of poisonous material from the intestine is advocated at the present time by pathologists of high repute, and a plan of treatment, based on this theory, is being adopted by many practitioners and with highly satisfactory results. The history of the case already referred to as under my own observation supports this idea. It is as follows:

"About eighteen months ago I was consulted by a lady suffering from what was clearly evident the symptoms of Graves' disease. She had a good family history, was 29 years of age, married, and the mother of one child, then fifteen months old. The goitre, that led her to seek my advice, was quite prominent, but not more so than the exophthalmos. The pulse rate was 135 per minute and the eyeballs protruded from their orbits with a staring appearance. There were great prostration of strength, loss of appetite, and, on the slightest exertion, profuse perspirations. I followed what appeared to be the natural indication as far as the heart's action was concerned, and ordered complete rest with arterial sedatives, commencing with digitalis and the use of iodine externally. This treatment I was obliged to discontinue in a few days owing to increased nausea and diarrhea. I then tried in succession most of the arterial sedatives, such as strophanthus, convallaria, spartein, etc., but all caused more or less increase in the gastro-intestinal irritation, while none of them had the slightest effect in controlling the heart's action. I then gave potassium iodide and also acid hydriodic, but with no benefit whatever. I then put my patient on thyroid extract, partly for the sake of being in the fashion and partly in the hope of deriving some benefit from it, but soon had reason to regret having made the experiment, as it not only was of no benefit whatever, but was a positive injury. At this stage Dr. W. S. Muir of Truro kindly saw the case with me and suggested as a result of his own experience the use of intestinal antiseptics. His suggestion was at once acted upon and the patient given salicylate of bismuth combined with salol, with an occasional mild mercurial purge to keep the intestinal canal free and as nearly antiseptic as possible. The diet consisted largely of milk and eggs, no meat of any kind, fruit or vegetables being given. This treatment, combined with absolute rest in bed and followed up for six weeks, produced a decided improvement in all the symptoms of the disease. The intestinal irritation, which had become a most serious feature of the case, was first relieved. Following this, there was soon a reduction of the enlarged thyroid gland. In twelve weeks the pulse rate was reduced from 140 to 100 per minute. The exophthalmos was the last of the three main symptoms to show signs of improvement. In four months she was able to be out of bed and go about the house without any apparent injurious effects. She continued taking small doses of salicylate of bismuth and salol for several weeks after she left her bed. The improvement in her general health and strength continued without interruption, and now, for the last six months and more, she has been attending to her usual duties about a farmhouse with ease and comfort. When I saw her last, a few days ago, her pulse was 82 per minute, strong and regular, her eyes had a perfectly natural appearance, and it required very close examination to distinguish any thyroid enlargement.

"I do not say the case is cured, as I am well aware that relapse of her former condition is probable, but the improvement has been so great and the success of this plan of treatment has been so far in excess of all others, that it certainly deserves trial in similar cases, and also strongly suggests the idea that in the disorders of the gastro-intestinal tract may ultimately be found the hitherto unexplained cause of this very serious and often fatal disease."

Tuberculosis and Insurance.

Dr. John Hunter (Toronto) discussed the effects of family history of tuberculosis and its bearing upon applicants for life insurance, before the Canadian Medical Association. Of course, there can be no two opinions about it, that it is the first and imperative duty of the physician to make an honest examination of the applicant for the medical director of the insurance company; it is due the applicant as well that he should receive the benefit of the advanced medical knowledge of the day. The purport of the paper was to invite discussion that might be used to define more clearly where we are at with reference to the relationship between tuberculosis and insurance. To what degree does the pres-

ence of tuberculosis in the individual or in the family history justify the applicant's rejection? First, he spoke in reference to the tuberculous subject, and the question of heredity, and the family history of those under thirty years of age, especially on the maternal side; and, secondly, of those who have an acquired physical condition that would predispose to the disease. After this class there are those over thirty years of age. He then took up the question of environment, physical conditions and hereditary tendencies, and stated that the trend of scientific opinion of the day was in favor of the opinion that the disease was not hereditary. The direct transmission of the tubercle through parental channels is of very rare occurrence. He quoted Dr. Bryce, who had made the statement that 80 per cent of all deaths from tuberculosis occurred amongst working classes, or in those working at trades.

Tuberculosis produces the death rate of insurance companies more than any other single cause. All companies, however, are very sure to inquire carefully into the family history of the applicant. The rules for declining an application because of family history of tuberculosis are much the same in all first-class companies. It seems to us, however, that one question is not asked that should be asked, namely, "Have you a consumptive wife?" That is often a matter of much greater importance than the family history.

Insomnia.

Merck's Archives says: According to Dr. J. B. Bradbury,* professor of medicine in the University of Cambridge, insomnia cannot be successfully managed in every case by any one line of treatment, because of the many unlike causes that take part in its production. In sleeplessness from overwork, especially literary work, if cool air, the wet pack, a bath or a glass of whisky and water fail to bring relief, then it is necessary to supply a mild hypnotic, such as 20 grains of sulphonal or 30 to 40 grains of potassium bromide, to break the vicious habit. Capsules containing 30 min. of turpentine, given at bedtime, are sometimes beneficial, particularly in cases accompanied by worry. Turpentine acts as a stimulant and derivative, and is stated to act best in plethoric cases. No beverages containing caffeine should be taken after breakfast.

In nervous and hysterical women, and especially in women at the menopause, the bromides are very useful; a mixture of bromide, tincture of sumbul and tincture of hop in camphor water at the climacteric, has helped to remedy the insomnia, as well as the mental depression and flushing heats so common at this period.

The sleeplessness of the insane requires careful management. In the early stages of acute mania, the bromides, chloral, hyoscine hydrobromide, and other sedatives are useful, but a hot bath at a temperature of 104 degrees F., and cold water simultaneously poured upon the head, are most efficacious in inducing sleep. In melancholia, where arterial tension is usually high, paraldehyde in doses of 40 to 90 min., or even more, is a valuable hypnotic. So is morphine, but a grain dose of erythrol tetanitrate, by reducing arterial tension, will frequently act better than anything else.

In mild cases of delirium tremens sleep usually comes on after a time, whatever treatment be adopted; in the more severe cases chloral and bromides, alone or in combination, are beneficial. Paraldehyde is recommended. Opiates may be given, but in most cases hyoscine is probably a more efficient remedy. Among the medical officers of the American army 20 grains of powdered capsicum, in the form of a bolus, is the favorite hypnotic for delirium tremens. Cerebral depressants should be given as little as possible and the treatment should be confined chiefly to feeding and tonic measures.

In pneumonia sleep comes usually at the crisis; but where this has not occurred a hypnotic, such as chloralamide or paraldehyde, may turn the scale in favor of the patient. In pleurisy and most other serious inflammations, 5 to 10 grains of Dover's powder is usually conducive to sleep, mainly by relieving the pain. A hypodermic injection of morphine may be given with the same object in view. In bronchitis, chloral and chloralamide are safe hypnotics; as a rule opiates are to be avoided, as they depress the respiratory center. The sleeplessness of asthma is relieved by remedies that cut short an attack, such as chloral hydrate, the fumes of asthmatic powders, the hypodermic injection of morphine, or in

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some cases a 5 to 10-grain dose of caffeine citrate. Bromides are also useful, and so is paraldehyde, which both relieves the asthma and causes sleep. A change of locality, even to another part of the same town, often succeeds.

The insomnia of heart disease is benefited by digitalis, strophanthus, strychnine, and other cardiac tonics; but in some cases it is necessary to resort to morphine, either by the mouth, or, still better, hypodermically, as first suggested by Professor Allbutt. Paraldehyde and chloralamide are most useful. Ice to the head is recommended by Morison, where the vital forces are not too low or the temperature subnormal. It often produces sleep rapidly, with a more regular cardiac action. Heat may possibly answer in other cases presenting a subnormal temperature.

In chronic Bright's disease insomnia is occasionally very troublesome. Eliminants, such as aperients, should be tried, and if they do not succeed, chloral hydrate may be given; the drug is safer in kidney than in heart disease, the reduction of blood pressure being usually beneficial in the former. Morphine and hyoscine hydrobromide subcutaneously injected have been recommended in obstinate cases; but their employment requires great caution. Erythrol tetanitrate, by reducing arterial tension, often acts as a charm even when sedatives have failed.

In cases of neuralgia, locomotor ataxia, and so forth, some of the synthetic analgesics—antipyrin or phenacetin—are of value. These drugs act also as hypnotics in cases where there is no pain. Calcium chloride is a valuable remedy in the insomnia due to pruritus. But when pain is the causal factor of insomnia, morphine is the best general remedy, and this should be used until relief is obtained.

Cascara Sagrada in Habitual Constipation.

For more than twelve years past cascara sagrada has been personally used in the treatment of habitual constipation to the exclusion of other drugs. In prescribing it, the patient receives an ounce of the fluid extract, and with it a dropper and some large-sized capsules, and the nauseous effect of the drug is not noted. He is instructed to begin with 15, 20 or 25 drops, according to the necessities of the case. This is to be placed in the capsule just before taking. The dose is always given at night, and the effects of the drug are usually not noted until the following morning. The dose is increased, if needed, by five drops each night, until the quantity is reached that causes a bowel movement; the drug is continued at this dose for a few days and is then gradually reduced one drop each night until its administration ceases.

Cascara sagrada is the only drug that stimulates peristalsis of the intestine and at the same time permits of a gradual lessening of the dose without decrease in its therapeutic effect. Used in the way here described, it is the most efficient medicinal means in the treatment of habitual constipation.—H. N. Moyer in August number of Medicine.

Treatment of Warts by Paraform.

Paraform has been employed by Mense in treating warts, who uses a solution of 3 parts of paraform (trioxymethylene) in 27 parts of collodion as a caustic. The application of the solution three times daily is said to be effective, usually in from two to four days.—Merck's Archives.

For Pertussis.

Bromoform .....16 drops.
Alcohol .....2 fl. dr.
Tinct. Cardamom Comp.....2 fl. dr.
Glycerin .....to make 2. fl. oz.
Teaspoonful three times a day.—Bedford, Canadian Pract.

Paralysis Agitans.

Treatment.—In paralysis agitans, sulphonal or whisky and water, at bedtime, afford a good night's rest. One should also see that the bed is not too soft. Alcohol taken during the day, as well as strong tea and coffee, increase the tremblings. The patient's living room should be well ventilated and not too warm. Systematic open air treatment is valuable, carriage drives are very advantageous, and railway journeys are often beneficial. Although morphine hypodermically gives relief, it is objectionable, as the disease is so chronic. Hyoscine is the only drug which has been personally found useful. One-fourth grain should be prescribed in six ounces of chlo-

roform water, two teaspoonfuls of this being given; thus each dose corresponds to 1-96 grain of hyoscine hydrobromate. The dose may be increased to 1-75 grain. After some weeks the drug loses its good effect, when it is best to stop it for a time; the good results are again obtained by recommencing.—R. T. Williamson (Med. and Surg. Review of Reviews, June, '99).

Employment of the Insane.

In the last number of Medicine our own genial Dr. Moyer has this to say of the employment of the insane:

Undoubtedly, the best employment for the insane is out-of-door work in the garden and field. To secure as much of this occupation as possible, a large tract of land should surround every state institution, and as much of the time of the inmates as possible should be devoted to farm labor. There is no reason why all of the vegetables and other farm products required by an institution should not be raised by the inmates. The first cost of the land is considerable, but the ultimate saving is very great, and farm labor furnishes an ideal occupation for the insane. Unfortunately, in our Northern states, the climate is so severe in winter that very little out-of-door work is possible, and it is the long period from harvest to seedtime that is passed so dismally in the wards of an institution. For this period some manufacturing industry is absolutely essential. So far as it can be usefully and economically directed in providing for the wants of the insane themselves, it ought to be so employed. Under our civil service, however, but little can be accomplished, but we hope that the lessons to be learned from the experiences of New York State will not be thrown away upon an otherwise intelligent community.

Eczemas Treated with Resorcin.

Resorcin in a 25-per cent solution in alcohol has been found by Dr. A. C. Frickenhaus to be almost a specific in the treatment of eczemas, especially seborrheic eczema of the face. The affected portions are briskly rubbed with a bit of absorbent cotton dipped in the 25-per cent solution, and a 10-per cent solution is given to the patient with which to repeat the treatment himself every evening for a week. In addition the diseased areas are to be daily anointed with wool-fat. After about eight days the treatment results in a cure, the plaques being shriveled up and desquamating. The method is equally satisfactory in the treatment of other epiphytic conditions of the epidermis; e. g., pityriasis versicolor.—Merck's Archives.

Cancer of the Stomach.

Diagnosis.—The following rules are suggested upon which to base a positive diagnosis of cancer of the stomach:

1. If particles of tumor are found (in the wash water or in the tube) which under the microscope reveal the characteristic picture of a malignant growth.
2. The presence of a more or less large tumor with an uneven surface, belonging to the stomach and associated with dyspeptic symptoms.
3. The presence of a tumor associated with frequent hematemesis.
4. Constant pains, frequent vomiting, ischochymia, emaciation—all these symptoms being quite permanent and not extending over too long a period of time (six months to a year).
5. Tumor and ischochymia.
6. Emaciation, ischochymia, presence of lactic acid.
7. Constant anorexia and pains, not yielding to treatment, accompanied by frequent small hemorrhages of coffee-ground color.—M. Einhorn (New York Med. Jour., July 29, '99).—Sajous' Monthly Cyclopedia of Practical Medicine.

Formaldehyde.

Merck's Archives: Formaldehyde, in the treatment of inoperable malignant growths, has been used by Dr. William Mitchell. He describes a sarcoma of the cheek about four inches in diameter which presented a denuded, bleeding surface. It was treated with a 20 per cent solution of formaldehyde. After the application the tumor was covered by a sheet of gutta-percha to prevent evaporation. The bleeding immediately ceased and there was a hardening and necrosis of tissue extending about one-fourth of an inch into the tumor. The remedy was again applied and the curetting repeated until the tumor was entirely removed. The unfavorable features of the treatment were considerable pain and some edema of the surrounding tissue.

MODERN THERAPY.

A WANT FELT AND FILLED.

If the doctor had never accomplished anything more definite in his life work than the relief of pain, than amelioration of human suffering, he would not have lived in vain. It is all very well to say that pain is physiological, that it is the cry of the nerve for more blood, yet its continuance cannot be borne by the patient, even by the most heroic Spartan. Long continued pain is dangerous, and while of course we never wish to obtund and remove it so completely as not to be able to ascertain its cause, and remove the same, yet, the best interest of our patient requires from time to time the administration of that which is opposed to pain. Remedies like opium which relieve the pain and at the same time are exhilarating and alluring in their effects are most ofttimes dangerous in the remote demoralization which they produce upon our patient. A remedy for the relief of pain which does not tie up the secretions, which carries with it no exaltation and no fascinations which tend in the direction of developing drug habits is a desideratum. Five-grain antikamnia tablets certainly meet this necessity. Antikamnia is also more prompt and decided in its action in labor than opium, and has none of the unpleasant after-effects. It may be continued in smaller doses to control after-pains, and rather favors than interferes with the secretion of milk.

SECONDARY SYPHILIS.

Dr. John J. Caldwell of Baltimore takes the position that those cases of syphilis which go on from bad to worse, are those in which the patient will not take anti-syphilitic treatment regularly, or there are instances where mercury or the iodides do not agree with the patient. In cases of secondary syphilis, particularly those where mercury has been given for several months, Dr. Caldwell maintains that great assistance can be brought to the patient, by giving him the iodides in a form that is readily assimilable—one that will not disagree with the stomach. No form of the iodides pleases Dr. Caldwell as much as Henry's Tri-Iodides. This he gives in doses of two drams in water, forty minutes before each meal, and the last thing before retiring at night. Some cases are treated alone with the Tri-Iodides, but where the stomach is intolerant to mercury, he gets the best results from Henry's Tri-Iodides when no mercury at all is given.

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Additional Report to a Case of Vaginal Atresia.

By EDWARD H. LEE, Chicago.

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In June, 1896, I had occasion to read a paper before the Chicago Academy of Medicine on the subject of vaginal atresia and stenosis, reporting what I considered to be a very interesting and also an exceptionally rare case of congenital atresia which had come under my care a few months previous to this time. I had made a very careful search in the literature of this subject, and in investigating over 1,300 cases I was not able to find a similar case to the one I reported. As I had the opportunity of having this patient under my observation for two years after having first seen her, I believe that the subsequent course of the case is not without interest. The following history was given to me when I first saw her:

Mary E., aged 22 years, had been married one year when she consulted me. Had never been sick up to her nineteenth year, with the exception of frequent pains in the "small" of the back. During her seventeenth and eighteenth years she had also slight attacks of abdominal pain, the pain in the back being increased at the same time, at intervals of from four to six weeks; the pain was never very severe during the attacks, which lasted about two days. She was not confined to bed during this time. In the beginning of her nineteenth year, at the usual time for an attack to make its appearance, she was seized with very severe pain, extending over the entire abdomen; she suffered greatly from nausea and vomiting and a heavy, dragging, tense feeling in the pelvis, the pain in the back also being very severe; she did not notice any difficulty in urination or defecation. She was confined to bed for three weeks, being treated by a physician for "neuralgia of the stomach." The pain subsided gradually, but a heavy feeling remained in the pelvis. One week later—a month from the date of the previous attack—she was again attacked in a similar manner. This time the physician examined her and found a vaginal atresia. A puncture was made through the same, admitting a probe, and the retained menstrual fluid slowly escaped. Since then she has been relieved of the attacks; menstruation has appeared regularly and continued for about three weeks each time, and though not profuse there was a constant oozing through the established opening. A year before I examined her she married; all attempts at sexual intercourse were futile; principally for this reason she applied to the hospital for relief.

Examination.—Well developed young woman; breasts fair size. External genitals normal, with the exception of the vestibulum vaginæ, which was covered with skin, the skin being continuous from the perineal body up to the urethra and laterally from one lip to the other. The artificial opening was on the left side of the median line; an ordinary grooved director could not be passed through it. A very fine probe which was with difficulty inserted seemed to enter a cavity; the probe being felt via the rectum was freely movable. Bi-manual examination (abdomino-rectal) revealed the uterus apparently of normal size and retroflexed; the tubes and ovaries could not be defined. The diagnosis of imperforate introitus vaginæ was made.

Before describing the operation and subsequent course of the case I wish to refer briefly to the development of this special form of atresia. With the assistance of Aurard's very simple theory of the development of the external generative organs as well the orifices of the urethra and rectum my case can be readily understood.

He takes the following view: In the caudal region, where later the vulva exists, a depression forms which grows inward and meets the rectum, vagina and bladder, as shown in Fig. 1. According

to this theory, all of these three organs are developed and separated before external fusion takes place. This seems to me

FIG 1 —Depression before division.

FIG. 2 —Depression divided. *R*, rectum. *V* vagina. *B*, bladder.

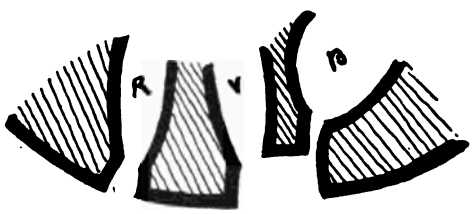

FIG. 3 —Condition after normal external fusion. *R*, rectum. *V*, vagina. *B*, bladder.

to be correct, as existing malformations substantiate it. Before, however, uniting with these organs, a subdivision of the depression into anterior and posterior takes place (Fig. 2), the posterior depression uniting with the rectum, the anterior with the vagina and bladder. Fig. 3 shows the condition after fusion. The development of the external organs, therefore, consists in the formation of the clitoris, labia, etc., and the fusion of the external skin with the lower portion of Mueller's ducts. It can now be readily understood how complete atresia can take place—that is, where there is no effort at all toward fusion between the external skin and the internal organs—or how the vagina and rectum may have a common opening, due to a failure of division of the depression, so that the vagina may empty into the rectum or vice versa. The term atresia ani-vaginalis, a misnomer, is usually understood as this condition. Similar changes may take place in connection with the development of the urethra and bladder. In describing the form of atresia which existed in my case I wish also to describe the congenital atresias of the rectum, their mode of development being very similar.

Imperforate introitus vaginæ and imperforate vagina are parallel conditions to imperforate anus and imperforate rectum, and may be found associated with each other. The lower portion of the ailmentary canal is not formed by the hypoblast, but by the epiblast; that is, by an involution of the skin which meets the rectum and fuses with it. Should this involution fail to take place, the condition of imperforate anus results, and there will be no attempt whatever at the formation of an anus; where it should be found, there is a continuation of the normal skin. A similar process may take place at the vaginal orifice, when the involution of the skin which fuses with the lower portion of Mueller's ducts fails to develop; as a result the skin is continuous from the perineal body to the urethra. In both the rectal and the vaginal forms the atresia is made up of three layers—the internal or mucous layer, the external skin, and a layer of connective tissue between.

I have not found any designation for this form of atresia; the term imperforate introitus vaginæ, which I have used, appears applicable. This is the condition which existed in my patient. Probably the rarity of this form is the reason for its not having any special designation. This form might be mistaken for an imperforate hymen, but the characteristic continuation of the skin is not present in the latter, it always being of a membranous consistency.

Imperforate rectum is caused by a lack of development of the lower portion of the alimentary canal, with failure of fusion with the external depression; on examination per anum a short, blind pouch is felt.

The corresponding form in the vagina exists when the tube formed by the ducts of Mueller fails to develop sufficiently to meet the external depression at the vaginal orifice, and as a result a transverse atresia forms in the lower third of the vagina. The correct term for this condition would be imperforate vagina. A failure in fusion may take place even when the external depression and the vagina are fully developed, the two canals running in a parallel

direction, giving rise to an oblique atresia in the lower third of the vagina. This condition is rarely met with.

The operation in this case consisted of first inserting a probe as guide. The atresia was incised with a knife large enough to admit a finger, then dilated as much as possible. On inspection the mucous membrane had retracted considerably. Considering that the opening established in this manner would not be large enough for the purpose desired, the perineal body was split, leaving only a thin septum between the vagina and rectum. The mucous membrane of the vagina was now loosened and sutured to the external skin and the seat of operation packed with iodoform gauze. A week later the sutures were removed; the opening was large enough to permit the thumb without causing any pain, and undoubtedly large enough to permit sexual intercourse. The patient left the hospital a week later feeling very much improved.

The operation was similar to that suggested and performed in one case by Kelly, who, however, did not split the perineal body. This I think should be done in all cases where subsequent contraction is liable to occur. It has the disadvantage, however, of being the possible cause of a prolapsus. In my case I considered it a necessity, and I do not think there is any danger of prolapsus following, at least before childbirth.

Two months later I examined the patient and found that the seat of operation was in perfect condition. There was absolutely no tendency to contraction; in fact, the vagina was even more spacious than at the time of operation. During her last two menstrual periods she had menstruated in a natural way, the flow lasting from three to four days and then ceasing entirely.

When seen one month later the same conditions prevailed. She had again menstruated normally.

I then did not see the patient for about eight months, when I was called to her home and found her suffering from severe labor pains. She stated that she believed herself to be pregnant at about eight and a half months. An examination showed her to be in labor, the head being well down in the pelvis. I transferred her to the West Side Hospital, where I referred her to Dr. Frank B. Earle. I submit his statement as to the condition which prevailed during her period of labor. After she left the hospital I did not see her again, but I have heard that she is doing well. The result in this case has undoubtedly been a most satisfactory one, not only the re-establishment of a vagina of almost normal dimensions, but also the impregnation which followed. A malformation of the uterus existed in this case, to which I believe we can attribute the premature labor. External deformities are almost always associated with deformities of the uterus and its appendages. Following is the report of Dr. Frank B. Earle:

Patient admitted to West Side Hospital late in the afternoon with history of having been in labor a number of hours. External examination disclosed the fact that the fetus was presenting by the vertex in the first position, head well engaged in the pelvis. Vaginal examination to determine the progress of labor was made but failed to reveal the location of the os uteri. Patient anesthetized; lower segment of the uterus extremely thin, permitting easy palpation of the vertix and os discovered in posterior vaginal fornix and well to the left. Traction upon the os in order to bring it within the axis of the pelvis resulted in some dilatation and severe hemorrhage. The tampon to control the hemorrhage and assist dilatation was used and allowed to remain in situ for twelve hours. At the end of this time expulsive pains were present and before the patient could be taken to the operating room a fetus was spontaneously expelled. Slight laceration of the perineum which was made during confinement was repaired by Dr. Lee. Convalescence uninterrupted.

Normal Saline Solution.
(A) When to Use It; (B) How to Use It.

By A. P. Heineck, M. D., Chicago.

The name "artificial serum" we discard. It is confusing. It is inaccurate. It might suggest the existence of a similarity of action and of composition between this substance and the various antitoxins. Such a relation does not exist. Normal salt solution is not antitoxic, is not microbicide (Bosc and Vedel, Archives de Physiologie, 1896).

Solutions containing only water and Na Cl are called simple normal saline so-

lutions; those containing in addition to the Na Cl and water sodium sulphate and other salts, are called compound normal saline solutions.

Normal salt solution is one of our most valuable therapeutic agents. "The use of saline infusions is as specific in its field of usefulness as that of any drug that we possess." Its field of usefulness is being constantly extended. It is a non-toxic agent. It is not noxious to human tissues. "Normal salt solution has never been shown to have any deleterious influence on the tissues" (Hunter Robb). Vaquez examined the blood of animals that had been subjected to repeated saline injections. He says: "The white corpuscles showed no apparent change of form. The normal proportion of the different forms of leucocytes was not altered. No difference in the reaction of the blood elements to the different stains, especially none to eosine, or hemateine, could be detected." "There is no fear of untoward symptoms from the injection of one or even two litres of saline solution at a time" (J. G. Clark).

It does not coagulate albuminous fluid. Its facility of preparation, its cheapness, its harmlessness, its non-toxicity, its manifold indications, its utility as a life-saving agent, all these and other reasons alike commend its use to the physician. There is no toxic dose, there is only a toxic rapidity of absorption.

Why is the use of so serviceable a medicament as normal saline solution so restricted among the general practitioners? It is because they ignore the indications and the contraindications to its use; it is because they exaggerate to themselves the difficulties and the dangers, if there be any, of the different methods of administering normal saline solution.

Like other therapeutic agents, normal saline solution must be employed (a) with discernment and prudence, (b) must be employed at the proper time, its use never being delayed until all hope of success is futile; (c) must be used in sufficiently large and repeated doses, the quantity to be used, and the frequency of use, varying with the conditions present in each individual case.

The saline solution, 7-1000, is the solution of choice to employ in therapeutics. "A 5 per 1000 produces the same physiological action and possesses the same therapeutic effects as a 7 per 1000 solution. However, the physiological effects which we consider the most important, as diuresis, thermic reaction, are not as rapidly produced, nor as marked, when the former solution is used as when the 7-1000 is employed" (Bosc and Vedel).

For transfusion and infusion purposes normal saline solution has displaced human blood, because the transfusion of blood necessitates a cumbersome and complicated apparatus; because it is difficult to find a donor of blood, hence human blood is not at hand when most needed, and cannot be obtained in sufficient quantity; the technique of blood transfusion is far more difficult than that of normal saline solution; during transfusion of blood very painful symptoms are in some instances experienced; after transfusion there may be alarming prostration, may be hemorrhagic fever; with blood transfusion there is the danger of formation of emboli. Coagulation emboli was often the cause of death when blood transfusion was practiced. The regeneration of the blood corpuscles after transfusion of the blood requires more than double the time required after saline injection. Hunter says, in the "British Medical Journal," 1889: "Any value which blood transfusion possesses over the infusion of saline solution depends upon the presence of the red corpuscles and their hemoglobin in the general circulation." To this he adds: "Any advantages that transfusion of red corpuscles may have over saline injections are counterbalanced by the dangers attending the simultaneous injection of the white corpuscles."

In the treatment of hemorrhage, another advantage of saline solutions over blood transfusion is that the hemostatic action of the latter is less than that of the former.

"The injection of normal saline solution is free and safe from all the disadvantages of blood transfusion" (Jno. B. Bullitt).

The transfusion into human beings of blood of inferior animals was discarded because it is not infrequently followed by acute nephritis, suppression of urine, hematuria and uremic symptoms. It imperils life and often leads to a fatal issue. Landois, Ponfick and Panum showed conclusively that the blood of one species cannot be injected without danger into another species.

The use of human serum for transfusion purposes was abandoned because it cannot

be obtained in sufficient quantity. Defibrinated blood should not be used, because "the leucocytes so preponderate in it that transfusion of defibrinated blood is an operation not only dangerous in itself, but one whose practical value by no means compensates for the risks attending it (Hunter).

Pure water alters the blood corpuscles. It can, however, in emergencies be used for transfusion. Distilled water, however, must not be used, not only because it is difficult to obtain on immediate notice, but especially because when introduced into the blood it is decidedly toxic to the human organism, provoking blood evacuations, causing degenerative changes in the blood corpuscles, and producing hemorrhages. Bosc and Vedel' state that as a result of their laboratory experiments they have come to the conclusion that distilled water, when injected, even in small doses, into the blood, has an energetic toxic action. They say that in a general way distilled water should not be used as a vehicle for substances that are to be introduced directly into the blood.

Experiments have been conducted to determine the value of intravenous injections of milk in anemia. These injections have been found to be valueless, to be dangerous. Dr. Joseph Howe (Handbook of the Med. Sciences), in speaking of his experiments upon dogs with the intravenous injection of milk, says that when he had bled seven dogs to a state of syncope, milk was intravenously injected, and not a single recovery took place. The intravenous injection of milk in human individuals is attended with serious accidents.

Various solutions are used by different clinicians. The following are the formulæ most frequently employed:

Hayem's formula:

Sodium chlor.....	5.
Sodium sulph.....	10.
Boiled filtered water..1000.	

Galvani's formula:

Sodium chlor.....	7.50
Sodium bicarb.....	5.00
Boiled filtered water..1000.	

These and other complex mixtures of various salts are recommended, but they take time to prepare, and there is no evidence that the results following their use are better than those that can be obtained by employing simple normal saline solution, which is a solution of common salt in water in the proportion of 7 parts of salt to 1000 of water. It can be prepared with reasonable accuracy, when the urgency of the case demands that no time be lost, by dissolving a teaspoonful of salt in a pint of boiled and filtered water. The water is boiled to sterilize it, and thereby avoid infectious phenomena. It is filtered to remove any foreign bodies present. Foreign bodies, when introduced in the vessels, may lead to emboli formation; when introduced in the tissues they irritate them.

The other solutions possess no advantage over simple normal saline solution. There is only an infinitesimal proportion of sodium sulphate present in normal blood. Its addition to simple normal saline solution is of no advantage; according to Mazet, it appears to be injurious to the integrity of the blood corpuscles. Simple normal saline solution is the most easily prepared, the most inoffensive and the most widely used of the various saline solutions.' Common salt and water are found in every household. Simple normal saline solution, according to Bosc and Vedel, produces the maximum physiological effects—most profuse diaphoresis and diuresis. It is the solution exclusively employed in Cook County Hospital.

USES OF NORMAL SALT SOLUTION.

1. As an inexpensive cleansing spray in chronic hypertrophic rhinitis (Morris J. Asch). As a gargle (Geo. A. Leland).

2. In diphtheria, irrigation of throat with hot normal saline solution gives much relief. Its use can be repeated every four hours. Irrigation removes all the loose membrane (J. H. McCollom).

It being definitely understood that its use in this connection is only as a palliative and as a cleansing agent, antitoxin being the specific remedy in this affection.

3. In skin grafting and to douche skin grafts previous to transplanting them. Antiseptics exert a deleterious action on living cells, and when used in skin grafting endanger the success of the operation. They impair the vitality of the grafts. Antiseptics must be thoroughly removed by prolonged douching with sterilized normal saline solution, from areas that are to be skin grafted.'

4. As an irrigating fluid for wounds. When used for this purpose it must be sterilized. Saline solution used for this

purpose should have been boiled half an hour. Normal salt solution can be boiled for sterilization without changing its composition. "Saline solution has a positive antiseptic action" (Tavel). It is less irritating to the hands of the surgeon than the repeated employment of solutions of antiseptics. It does not irritate the tissues. It does not impair their physiological properties. Can be used for irrigation of uterus. Used in abdominal surgery to wash out septic material. Owing to the great absorptive powers of the peritoneum, solutions containing germicidal drugs, when used in abdominal surgery, in addition to their local irritating action, can produce systemic disturbance from the absorption into the system of the chemic irritants which they contain.

5. In diarrheal affections. It is also of great value in gastro-intestinal infections of infancy. Injections of normal saline solution, whether intravenous, subcutaneous or rectal, raise the arterial pressure and hydrate the tissues. They quiet the intense thrist present in these conditions. Emptiness of the circulatory cavities is the cause of the collapse in cholera" (B. J. Richardson).

In the following affections the use of normal saline solution will be found very serviceable:

(a) Cholera Asiastica (its use in this disease is sanctioned by the best authorities). "Owing to the profuse serous discharges the blood becomes concentrated and absorption takes place rapidly from the lymph spaces. To meet this intravenous injections have been practiced. This is really a valuable method, thoroughly physiological, and should be tried in all severe cases" (Osler).

(b) Cholera nostras.

(c) Acute enteritis.

(d) Dysentery.

(e) Gastro-intestinal intoxications of nurslings.

In profuse diarrheas the sunken eyes of the patients show how wanting in fluid the tissues are.

6. In the anemic form of asphyxia neonatorum.

"The infant is suffering from shock, and the measures which suggest themselves are similar to those we would resort to were we dealing with an adult. Heat to the surface, injection into the rectum of a pint of hot (115° F.) saline solution, the instillation into the mouth of ten drops or so of brandy, such are the primary measures of utility" (Grandin and Jarman, Practical Obstetrics).

7. In surgical and puerperal infections. In these conditions the use of normal saline solution is an adjuvant measure to which must always be associated the habitual therapeutics of these infections. Results following its use in these conditions are often extraordinary. "The subcutaneous employment of large doses of normal saline solution can be resorted to with advantage in infectious states, when symptoms of marked depression are present.'" The use of normal saline solution raises the arterial tension. This increase of arterial pressure causes increased diuresis. This increased diuresis is attended by an increased elimination of toxins. Tuffier has practiced intravenous injections both for hemorrhage and for toxemia in fifty cases, and found the first effect was to restore the normal arterial pressure and diminish the frequency of the heart's action; the second, to cause diuresis. He says that normal saline solution is of special value in surgical and obstetrical infections.

Other authors that highly recommend its use in these conditions are Lejars, Delbet, Duret, Jayle, etc. "In puerperal septicemia, they (saline injections) aid the patient to better withstand the noxious influence of the bacterial toxins" (Michaux, Segond). Infections due to the bacillus coli communis are retarded and combatted by injections of normal salt solution (Bosc, Vedel, Manquat).

There is a relation existing between the infectious states and leucocytosis. In infectious conditions there is an increase in the number of leucocytes present in the blood. With the advent of convalescence the number of leucocytes present in the blood diminishes.

The use of saline solution, when employed in pathological states, is most always followed by a diminution in the number of leucocytes.[8] "The marked leucocytosis present in most infections diminishes rapidly after the use of injections of normal saline solution" (Andre Claisse). The same author reports experiments conducted on animals, in which the use of injections of normal saline solution was followed by

a marked diminution in the number of leucocytes.

Among the many effects produced by normal saline solution are increased force and regularity of pulse, except in cases where the arhythmia is due to a cardiac lesion; dyspnea is relieved; increased renal activity, amount of urea excreted is increased; diarrhea is often provoked; increased glandular activity; production of saliva is increased; tongue becomes moist and thirst disappears; increased activity of sweat glands; skin becomes moist a few hours after the injection; elevation of temperature, whether patient be hypo- or hyper-pyrexic; following the injections there is a multiplication of hematoblasts.

Readers wishing to get further information as to value of saline solution in surgical infectious states are referred to Lejars, Soc. de Biologie, 1896.

8. In malignant forms of syphilis that fail to respond to the usual anti-syphilitic treatment. "How does this medication (normal saline solution) act? Is it by exciting diuresis? Is it owing to a depurative action, resulting from the renal hyperactivity which it excites, this renal hyperactivity causing an elimination of toxins? Is it by provoking leucocytal activity and thereby increasing the individual's resistance against the virus?" "The diuresis following the injections is most abundant when the febrile reaction consecutive to the injection is most marked.

9. In uremic poisoning.

"In case of insufficient excretion through the kidneys, stimulation of this function can usually be accomplished by injections of normal saline solution into the bowel. From one to three quarts being so employed once or twice daily" (Bullitt).

The amount of urine excreted by the kidneys being dependent upon the blood pressure in the kidney (Woolsey), increasing that blood pressure by increasing the amount of circulating fluid increases the urinary flow. Saline injections, be they intravenous, subcutaneous or rectal, markedly increase the quantity of urine (Bovée). They considerably augment the amount of urea excreted (Volt, Rabuteau).

The amount of sodium chloride excreted by the kidneys is enormously increased.

During my interneship at the Cook County Hospital the routine treatment employed in uremic poisoning was the following. We found it very satisfactory, and through its use, many apparently hopeless cases recovered. I used it personally in the services of Professor A. R. Edwards and Professor G. Butler, and have great faith in its value:

1. Milk diet and an abundance of water.
2. Hydragogue cathartics. Jalap and salines.
3. Alcohol sweat daily, preceded either by a hypodermic injection of

Pilocarpine nitrat, gr. 1-6
or
Strychninæ sulph., gr. 1-25
Nitroglycerine, gr. 1-30

according to the condition of the patient's heart or lungs.

4. Enema of Oj. of normal saline solution, t. i. d., to be retained. Tube inserted high up.

Barré has obtained excellent results in cases of uremia by injecting intravenously in uremic patients a quantity of saline solution equal to the amount of blood simultaneously withdrawn.

10. Puerperal eclampsia. Porak reports eight cases in which he used saline solution. Six recoveries. Audebert also recommends its use in this affection.

11. Before operative procedures, when patients are anemic, either from repeated small hemorrhages or from one profuse hemorrhage. "When in a patient weakened by large losses of blood or whose general condition is bad, it becomes necessary to perform an obstetrical operation (the author might have said any operation), it is wise to make either an intravenous normal salt solution or one or more subcutaneous injections. The patient will thus be enabled to better withstand the operative shock, and to offer better resistance to any hemorrhage that may occur" (P. Amillet).

In collapse, while patient is being operated on. Here it is used as a cardiac stimulant. Intravenous or subcutaneous injections can be performed while patient is being operated on. After operations, it quenches thirst; it contributes to the restoration of the blood volume; it lessens shock. Dr. Kelly (Baltimore) has employed sub-mammary infusion in 41 out of 225 cases of abdominal surgery. Of these 41 cases none of them suffered with as much as a cellulitis. Hunter Robb says: "I am convinced that the use of salt solution undoubtedly diminishes the shock

which generally follows a serious abdominal operation."

Normal saline solution, when administered after operations, lessens the tendency to suppression of urine. It is valuable in aiding in reaction from the shock (death from shock after exhaustive hemorrhage directly after the patient leaves the operating table is by no means rare) incident to the anesthetic and to the operation. After post-partum hemorrhage and operations in which there has been much hemorrhage, I always prescribe an enema of one quart of warm normal saline solution (enema to be retained), to be repeated every four hours until three have been taken. I have found this to be a very valuable procedure. If condition is serious, I order the enemata to be repeated hourly until the quality of the pulse improves.

12. In diabetic coma.

Transfusion of saline solution has proved of service to prolong life.[10]

13. In shock, or in collapse following large hemorrhages, we have no other therapeutic agent that will give results comparable in value to normal saline solution. "No patient should be allowed to suffer from symptoms of shock or depression without its employment."[11]

In shock normal salt solution is valuable to stimulate the heart and arteries, so that the blood which has accumulated and stagnates, especially in the large abdominal vessels, may again be put in active circulation. The increased arterial tension furnishes more nutrient blood to the heart through the coronary arteries, thereby stimulating and energizing the action of the heart.

Brunton says that shock is mainly due to paralysis of the heart and vaso-motor paralysis of the abdominal vessels. The sudden dilatation of the abdominal vessels causes symptoms similar to that of sudden or profuse hemorrhage. The blood pressure falls, the remote arterioles contract, the heart falters. Mayo Robson, in the "British Medical Journal," 1893, describes cases in which infusion of several pints of normal solution into the circulation warded off impending death in cases of intense shock after operation. Symptoms of shock are chiefly due to the accumulation of blood in the abdominal vessels, where, for the time being, it is useless, and to its withdrawal from other parts, leaving the head and extremities in a state of anemia. The increase of the circulating fluid following saline injections overcomes this anemia in the vital centers and insures their functionating.

14. To combat the effects of hemorrhage normal saline solution is the agent par excellence. The more general and frequent use of saline injections in all cases of acute anemia from hemorrhage and of profound shock that do not respond to ordinary stimulation cannot be too strongly urged. "Many a life is now lost in private practice after severe post-partal or other bleeding has been controlled, because the family doctor has not had the nerve, or the experience, or the appliances thought necessary to accomplish infusion, and the remaining amount of circulating medium being not sufficient, the patient succumbs" (Dawbarn). "A patient should never be abandoned as dead from hemorrhage unless copious saline infusion has been performed, for surprising results have followed when it has been administered, even in apparently hopeless cases" (Morton).

Its use is indicated in all forms of hemorrhage, be the hemorrhage traumatic, operative, post-operative, post-abortum or post-partum. The practitioner will find it of value to combat the anemia resulting from intestinal hemorrhage, as in typhoid fever; from hematemesis, as in ulcer of the stomach; from uterine hemorrhage, as in fibroma, cancer uteri; from hemorrhage due to ruptured varicose veins; from concealed hemorrhages, as in ruptured extra-uterine pregnancy.

"In hemorrhage, the real cause of death is a mechanical one and consists in the loss of volume of the circulating fluid, which must within certain limits be proportional to the capacity of the vascular system" (Pye-Smith).

Schwartz, in 1881, injected in rabbits a quantity of saline solution equal to half their blood mass. These massive injections did not determine any accidents. He demonstrated that in rabbits, the loss of two-thirds of their blood is not productive of death, if these (the two-thirds) are replaced by an equal quantity of salt water.

Injections of normal saline solution increase the volume of the blood and lesser its specific gravity. This abundant adjunction of liquid to the circulating fluid is of value after hemorrhage, because by restor-

ing the blood mass, it reëstablishes the arterial pressure necessary to stimulate the centers in the medulla oblongata. With the disappearance of the anemia of the medulla oblongata, vital functions return. "The immediate source of danger from sudden loss of blood is the fall of blood pressure to a point where the circulation cannot be maintained" (Hunter, Reilly).

Vascular tension is the useful element in transfusion. The heart does not contract, does not perform its function, unless a sufficient quantity of fluid is poured into its cavities. "One of the most important causes of the immediate serious symptoms resulting from hemorrhage is the diminution in amount of the circulating fluid rather than the changes in its quality" (C. S. Bacon).

It is deficiency of fluid. It is the disturbed relation between the caliber of the vessels and the quantity of blood contained in them that causes death in hemorrhage.

"After hemorrhage, the dominating indication is to quickly restore the volume of the circulating fluid to that point which will make possible the continual action of those forces by which its continual flow through the vascular channel is carried on" (Pilcher).

This dominating indication is best met by the injection of normal saline solution. Under its influence the lowered blood pressure due to profuse hemorrhage is rapidly brought to normal; the pulse becomes palpable; respiratory action is stimulated; warmth returns to the periphery.

Normal saline injections have an hemostatic action (Heyem). The coagulating properties which they possess prevent the increased arterial pressure which follows their use to be attended by a renewal of the hemorrhage. This hemostatic action of normal saline solution is due to its exciting (a) vaso-motor constriction of the ruptured arterioles; (b) to the fact that it activates the precipitation of the hematoblasts at the site of hemorrhage, thus forming centers of clot formations.

When combatting the effects of hemorrhage by the infusion of normal saline solution, the bleeding points, when accessible, must be secured. When the source of hemorrhage is not accessible, as in the intestinal hemorrhage of typhoid fever, we must begin with subcutaneous injections of small quantities, say 200 to 300 cubic centimeters. Later we can employ larger doses.

There are three principal routes for introducing normal saline solution into the human system: The rectal route, the subcutaneous and the intravenous. The use of salt solution by mouth is not practicable; it excites nausea, it may provoke vomiting and it is impossible to ingest sufficient quantities that way. The intra-arterial route is condemned by most of all the authorities. Its use has been followed by serious accidents, such as gangrene. The injection of normal saline solution into the peritoneal cavity carries with it the danger of wounding the intestines. I cannot recommend it. Some clinicians have injected the solution in the pleural cavities. Their results were not encouraging.

When the condition of patient is not critical, the rectal route is employed. Lepine says: "The therapeutic effect of the rectal injections is precisely the same as that of the subcutaneous injections." Eitz, Bolognesi and Pauchet have noticed that the rectum is capable of absorbing large quantities of salt water and that these enemata favor diuresis and diaphoresis. It is painless to the patient. It does not require the presence of the physician. It can be administered by nurse or patient's attendant.

The solution employed does not need to be sterilized. The possibility of local infection following the use of the rectal route does not exist. With a careless operator local infection may follow the employment of the subcutaneous or intravenous methods.

To practice a rectal injection of normal saline solution are needed (a) a three-quart fountain syringe; (b) a long rectal tube. In the absence of a rectal tube a rectal canula can be used. "For voluminous rectal injections of normal saline solution to be most effectual the tube must penetrate the sigmoid flexure and command the absorptive powers of the descending, the transverse and the ascending colon; therefore, a long tube must be used and the injection pushed to tension limits." (McNeil.) (c) Some plain water. (d) An abundance of normal saline solution. Injections must be repeated as often as the patient's condition demands it.

Proceed as follows:

(a) Give patient a cleansing enema. After voidance of this, (b) elevate foot of bed. If that is not convenient, patient's buttocks must be elevated. The bed is

elevated so that the saline fluid will pass into the bowel by gravitation. It quickly gets into the circulation, owing to the large absorbing surface.

(c) Patient is to lie on right side. Body is to be arched.

(d) Have your solution at the temperature of the body. It has been shown by experiments that the absorptive property of the rectal mucosa is most active when substances injected have the body temperature. Cold solutions must not be used. Cold solutions occasion chills.

(e) In inserting the rectal canula or nozzle bear in mind that the rectum at its lower portion for the extent of from 3 to 4 cm. comes from above down and from behind forward.

(f) In some conditions it may be necessary to press a pad against anus, or buttocks can be pressed together so as to have the solution retained. If the intestinal susceptibility prevent the retention of the normal saline enemata, insert tube high up and make injection under low pressure. About one pint should be injected at a time. Injections can be repeated every four hours if needed.

The subcutaneous method: Subcutaneous injections, though slower than intravenous, are devoid of danger when done with a proper technique and aseptically. They may be superficial, that is, under the skin. They may be deep in the muscular tissues. In using the subcutaneous route, (a) solution must be absolutely sterile; (b) the strictest asepsis must be observed in all manipulations. Proceed as follows:

1. Select a region where the cellular tissue is loose and easily distensible, as the axilla, the buttocks, the subscapular region, the abdominal wall, etc. The infraclavicular regions can be selected.

2. Site of injection must be sterilized. (a) scrub with soap and water; (b) wash with alcohol; (c) wash with Hg. Cl., 1-2000; (d) irrigate with sterile water.

3. Needle, tube and receptacle containing solution, as well as the solution itself, must be sterile.

4. The temperature of the solution should be from 105 degrees F. to 110 degrees F. About 700 cu. cm .can he safely injected through one puncture. Experiments have shown that absorption is most rapid when the arterial tension is low (Feilhenfeld).

5. In inserting needle, be careful not to wound any superficial veins. Introduce needle while fluid is flowing, so as to avoid the introduction of air in the tissues. Usually simple elevation of the reservoir containing the saline solution is sufficient to force the fluid into the loose cellular tissue. "In the subcutaneous method the solution is allowed by gravitation to enter the circulation of the patient" (Stepp)."

6. After from 500 to 700 grammes of solution have been injected through a single puncture the needle is removed. The small cutaneous wound made by the needle is to be occluded by a few drops of collodion and some sterile absorbent cotton. Dressings are to be applied to wound. These dressings are to be kept in position by bandages. The absorption of the injected fluid is hastened by massaging the tumor mass with the hand. In healthy individuals the edema attending the subcutaneous injection of the saline solutions disappears in a few hours. In cardiopaths and nephritics it takes at times from three to five days for resorption to take place.

Advantages of subcutaneous method over intravenous method:

1. The patient's and his parents' consent to subcutaneous injections is more easily obtained than for intravenous injections. The procedure not necessitating an incision, is not considered an operation. The injections are more easily repeated.

2. No anesthetizing of area to be incised, no cutting, no stitching of wound are necessary. There is no danger of introducing air into the circulation. The fluid is slowly taken into the general circulation, thus avoiding the danger of sudden increase in blood pressure.

3. Technique is simpler. Fewer instruments needed. Douche bag or syringe, piece of tubing, hollow needle from the aspirating case, or from the hypodermic case, are all the instruments needed.

There are only a few objections to the subcutaneous route. They are the pain incident to puncture and to repetition of punctures. The pain is slight. There is some pain due to distension of the skin. This, however, does not last long. The possibility of local infection and abscess formation does not exist when surgical cleanliness is observed. Infection follow-

ing subcutaneous or intravenous injection of normal saline solution is evidence of negligence on the part of the surgeon.

One of the great advantages of subcutaneous injections is that they, owing to the simplicity of their technique, can be given by the nurse.

The intravenous method:

In urgent cases, owing to its greater rapidity of action, the intravenous route is preferable.

Objections to the use of the intravenous route:

1. When patient has lost much blood the veins are not full and are difficult of access.

2. Lumen of vessels may be so small that neither the infusion canula nor the smallest aspirating needle can be inserted (J. G. Clark).

3. Vein is often difficult to find in children, in women and in obese individuals.

4. Cardiac lesions and myocardiac weakness should always make us prefer the subcutaneous and rectal route. "By intravenous transfusion cardac paralysis may be induced through over-distension" (Bovee).

5. Danger of producing an acute pulmonary edema. "Generalized pulmonary edema is one of the most frequent accidents of intravenous injections."

Too rapid intravenous injection of normal saline solution may cause cardiac distension, pulmonary disturbances, as pneumonia, edema of lungs, etc. Formeaux noted engorgement of spleen and liver, with marked pain in the latter, in one case. Pleural, peritoneal and sub-arachnoid effusions have been noticed by other observers.

In adults an intravenous injection of 1,500 grammes in about fifteen minutes does not determine any symptoms of intolerance. In children, be the route the rectal, the subcutaneous or the intravenous, the dose is to be proportioned to the age and weight of the patient. The condition of the patient's pulse will tell us when enough fluid has been injected. This, however, does not hold good in sepsis.

The fact that its results are more rapid and that by it heat is brought directly to the cadiac and arterial ganglia, is what commends the intravenous method to many clinicians.

Technique of intravenous method:

1. The following instruments are needed: A scalpel; two dissecting forceps to elevate tissues and aid in isolating veins; a constricting band; an aspirating needle, a hypodermic needle can do; a large funnel or recipient provided at its lower extremity with a rubber tube 1 m., 50 cm. long, to which is adapted the aspirating needle or a large hypodermic needle; surgical needles and silkworm gut to suture incision once transfusion is completed; silk or catgut to ligate distal and proximal ends of veins; two hemostatic forceps to check cutaneous hemorrhage.

2. Any large vein can be selected. Veins at the bend of the elbow are the ones usually chosen. If veins of arm are chosen, right arm is preferable, because its veins are a trifle more prominent. The internal saphenous vein can be selected. It is easily accessible. It is a good vein to select. Its caliber is larger than that of the veins of the elbow. It rests upon a bony plane and is easy to locate in fatty subjects. The introduction of a little air, though of slight importance when occurring at such a distance from the heart, does not offer much danger.

3. All instruments above mentioned must be sterile. Site of injection must be disinfected; surgeon's and assistant's hands must be surgically clean. Anesthetize line of incision either with ethyl chloride or by intra and subcutaneous injections of 1 per cent. solution of cocaine. Schleich's solution can be used. If forearm is selected, before making incision place it in position of supination.

4. A constricting band is tied about extremity above the selected site for operation, so as to lessen the upward diffusion of the anesthetic and so as to congest the veins and make them stand out. This is to be removed as soon as needle has been introduced in vein. Or the limb may be made to assume a dependent position over the side of the table or bed. If this does not make them prominent (because of non-action of the heart or small amount of circulating medium) rubbing the parts in the direction of the arterial supply will generally suffice.

5. Expose vein selected. It is the only way to introduce the needle with precision and accuracy. Introduction of the needle into the vein through the skin is a blind, unreliable, unscientific procedure. Vein is to be opened between two ligatures. Glass tube or needle is to be introduced in vein

while the fluid is escaping, being careful that fluid penetrates vein and not sheath. Canula is thrust upward in proximal end of vein, that is, in the direction of the blood current, for one-half to three-quarters of an inch, and secured in position by tying down the upper ligature so as to bring the vein wall tightly about the canula. All the air must be carefully expelled from the tube and needle before it is introduced in vein by allowing fluid to run through them. Solution should have a temperature of about 105 degrees to 115 degrees F. Receptacle is raised 1.50 meter above level of the bed. This allows the liquid to flow at the rate of 1,500 grammes of liquid in twenty-five to thirty minutes, the rapidity of the flow being controlled by the height of the receptacle and by the caliber of the needle. The higher the receptacle the more rapid the flow; the larger the caliber of the needle the greater the volume of the fluid flowing through it in a definite space of time. The patient should always be watched for some hours after transfusion and if the pulse again fails the transfusion must be repeated.

Quite often it is necessary to repeat these intravenous injections. The same vein can be used for successive operations. It is then to be incised a few centimeters above the first incision.

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The Surgical Importance of the Cervical Lymphatics.

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Introductory.—A thorough knowledge of the anatomy and physiology of the different organs and parts of the body, as well as the pathology, is necessary for rapid advancement in their medical and surgical management. The logical order of acquiring medical knowledge is to obtain a knowledge of the anatomy, physiology, pathology, and then treatment. Frequently valuable knowledge is acquired by reversing the order of study. Thus we have gained valuable knowledge in physiology by observing the effect of treatment upon an organ or part. Likewise, advancement in our knowledge of anatomy has been made by the study of the pathological conditions of certain organs or tracts which have become consecutively involved, etc. Many diseases of the nervous system are not well understood on account of our ignorance of the anatomy of certain of its parts. The painstaking care of accurate observers has illuminated many dark places in the anatomy of the central nervous system by tracing the course of pathological involvement of different tracts of the cord and brain. Our knowledge of minute anatomy has been gained by the advent of the microscope and improved methods of staining. No perfectly satisfactory method for injecting the entire lymphatic system for the purpose of dissection and macroscopical demonstration has ever been found. Certain parts of the normal lymphatics can be successfully dissected out and demonstrated, but much of the anatomy of the lymphatics has been learned only after repeated observations of them in a pathological state, which increases their size, so that macroscopical observation becomes possible. This method of gaining anatomical knowledge of the lymphatics, as it always has been upon every other subject, is disconnected and exceedingly slow.

The importance of the lymphatics has been greatly underestimated. In his Gulstonian Lectures, 1879, Gurnow says (System of Surgery, Dennis): "The lymphatic system has had but little notice taken of it since the time of the Hunters and Monro,

and from the extravagant notoriety which it then attained, it quickly passed into an opposite extreme of neglect, from which it is now emerging."

In the twenty years that have elapsed since this statement was made the lymphatics have received a share of the rapid advancement made in surgery. They never have held so prominent a place in the respect of the surgeon as they do at the present time.

Anatomy.—In considering the lymphatics of the cervical region it is important to study their tributaries, as the involvement of lymphatic nodes is usually due to a primary involvement of their tributaries. The structure of the lymphatic vessels is similar to that of the veins and consists of a tunica intima, media and adventitia.

Structure of the Lymphatic Glands.—They are composed of a capsule, giving off fibrous trabeculæ separating the interior of the capsule into spaces which are partially filled with lymphoid cells, between which lymph channels pass. They are located along the course of the great vessels of the body and are most numerous in the neck, thoracic cavity, pelvic cavity and the junction of the extremities with the body. The origin of the lymphatic vessels is in the small and large spaces. The small spaces are called interstices lacunæ, juice canals and capillaries, and occupy the connective tissue bundles and almost every other tissue of the body. These spaces frequently connect with each other.

The large lymphatic spaces consist of the pericardial, pleural and peritoneal cavities, tunica vaginalis, arachnoid cavities of the brain and spinal cord, which connect with the lymphatic channels by stomatæ located on the walls of these cavities, the chambers of the eye, perivascular and perineural spaces.

The lymphatics of the neck consist of the lymphatic vessels and the lymphatic glands or nodes. The lymphatic vessels contain valves similar to the veins. They are called absorbants. It is well understood that the minute veins play an important part in the process of absorption. Therefore, it is not strange that they should closely resemble each other in their structural anatomy.

In order to understand the import of the enlarged lymphatic nodes, it is necessary to understand the location and extent of the vessels which pass them, i. e., their afferent vessels.

The deep cervical lymphatic nodes are located around important structures, the integrity of which is necessary to the existence of life. Their diseases frequently subject them to operative interference.

The cervical glands are arranged in a superficial and a deep set. The superficial glands are easily removed or opened in cases of abscess, but the deep set of glands is arranged along the course of the internal jugular vein, from the base of the skull to the clavicle, and around the bifurcations of the common carotid artery and its branches. They are in close proximity to the pneumogastric nerve, brachial plexis, spinal accessory nerve and phrenic nerve, the apex of the pleura and the termination of the thoracic duct.

From a surgical standpoint, no set of lymphatic nodes is of greater importance than those of the cervical region. The lymphatic glands of certain regions are important on account of the exposed condition and frequent involvement of the areas tributary to them and on account of their accessibility to operative intervention.

It is only recently that our knowledge of lymphatics of the pelvic region has been put to much practical use. It is of practical importance to know that infections of the perineum will cause an involvement of the inguinal glands; but it has been only within the last few years, since surgeons have become more expert in the technique of abdominal surgery, that, instead of being satisfied, in malignant and infective troubles, with the removal of the organs involved, they attack their metastatic invasions in the ileac, lumbar and sacral glands. Howard Kelly, of Baltimore, and many others have done commendable work in this line. Therefore, while the lymphatics in this location are of greater importance than they have formerly been, it is still only in the advanced cases of infective troubles that these glands are attacked, not only on account of the danger which is attendant upon reaching them through the peritoneal cavity, but as well the important structures around which they are located, while in cases of trouble with the cervical glands the danger of operation is not so great on account of the tissues which have

to be traversed as on account of the structures around which the glands are located. Therefore, they can and should be more frequently subjected to surgical intervention than the glands of the pelvic region, and are consequently of greater surgical importance at the present time.

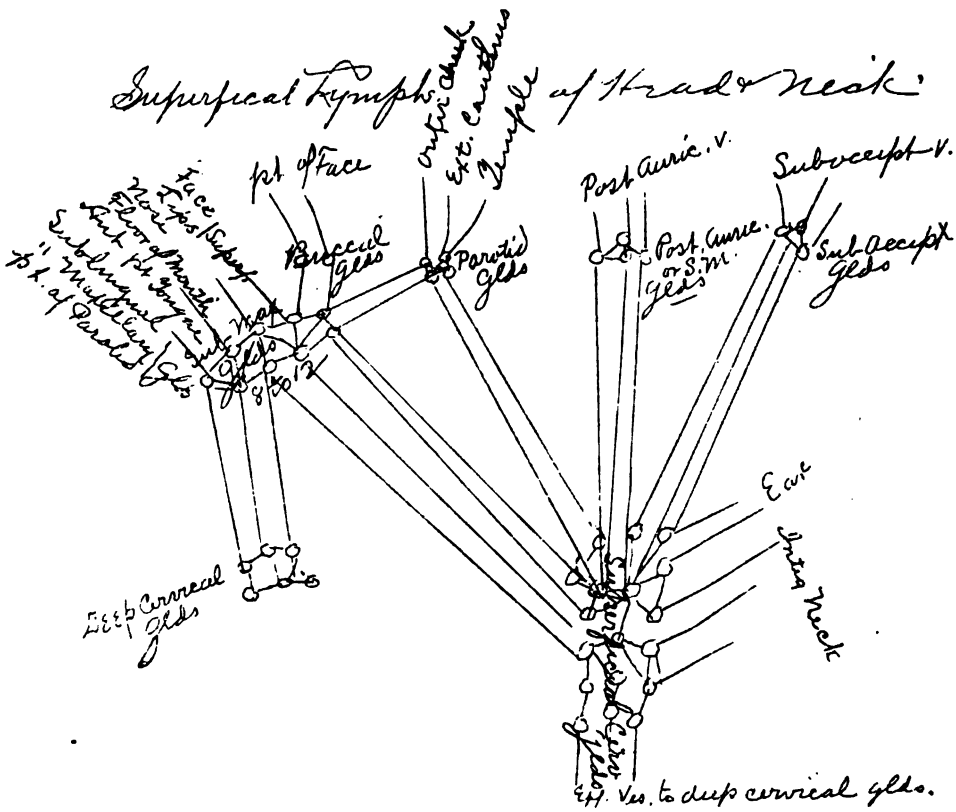
While in a general way the physicians and surgeons understand that the lymphatic vessels from the head are continuous with those of the neck, I believe that I am safe in saying that the course and arrangement of these vessels in the different areas of the head and neck are not clearly comprehended. This is easily explained, from the fact that the subject of the lymphatics is not always clearly presented by the textbooks on anatomy and that the dissection of most of the normal lymphatics is difficult or impossible.

It is important for the surgeon to know precisely what part furnishes lymph to a set of nodes accessible to surgical treatment; likewise for the physician to know all of the tributaries of the glands accessible for examination.

It should be remembered that the lymphatics of adjacent areas freely communicate with each other; that infection may travel along the lymphatic vessels in either direction, so that vessels and nodes, either distal or proximal to any set of nodes becoming primarily involved, may secondarily involve the adjacent lymphatics. However, the usual course of infection is in the direction of the lymph stream.

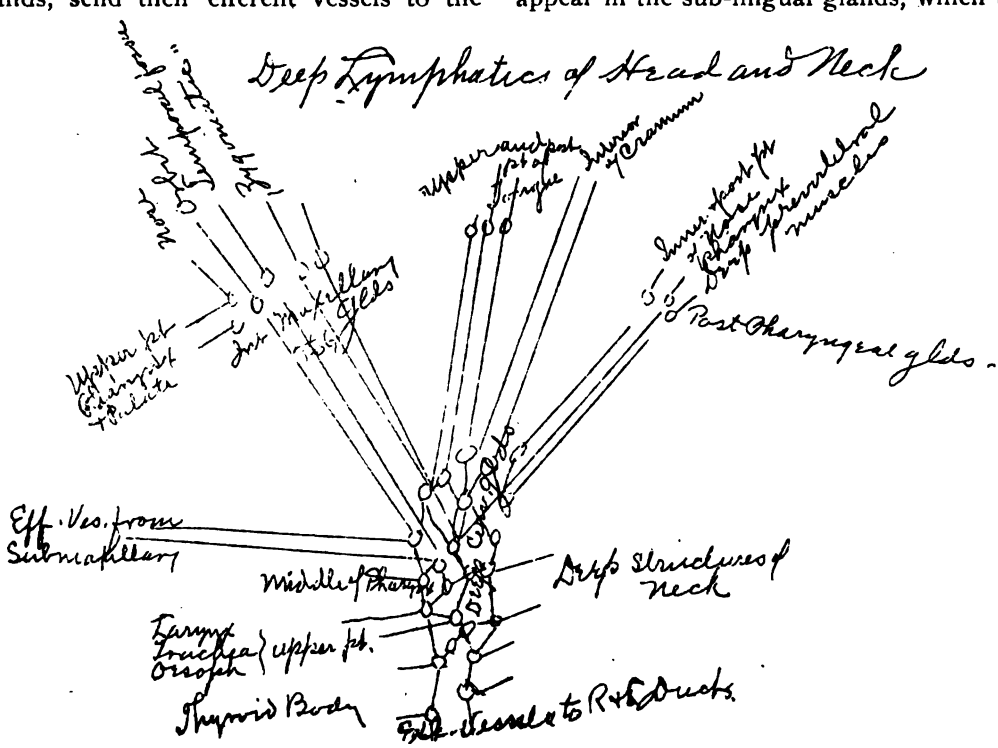
For the purpose of assisting my classes in the study of the cervical lymphatics with their tributaries, I have constructed diagrams of the arrangement of the superficial and deep lymphatics of the head and neck, which have aided them greatly in understanding the subject. The fact that these diagrams, with others of the lymphatics of different regions, have been incorporated in one of the principal textbooks of anatomy (Morris) prompts me to use them in the illustration of this article. They give, at a glance, the course and termination of the lymphatics of this region.

All of the superficial lymphatics of the head and neck, with some of the superficial lymphatics of the arm, are afferent to the deep lymphatic glands of the neck.



The diagram of the superficial lymphatics of the head and neck represents the lymphatic glands as being divided into a horizontal and a perpendicular set. The horizontal set of glands is arranged along a line drawn from the external occipital protuberance through the external auditory meatus, along the ramus and lower border of the inferior maxillary bone. They consist of the sub-occipital glands, receiving sub-occipital vessels from the posterior portion of the head. The posterior auricular or sterno-mastoid glands receive their afferent vessels from the posterior parietal region. The paroitid glands receive their afferent vessels from the outer portion of the cheek, the external canthus of the eye and temporal region. The buccal glands receive their afferent vessels from the middle, lateral portion of the face. The submaxillary glands receive, as their afferent vessels, part of the efferent vessels of the paroitid, the efferent vessels of the buccal and afferent vessels from the superficial portions of the face and lips, nose, floor of the mouth, anterior part of the tongue, and the lymphatic vessels from the sub-lingual and sub-maxillary salivary glands. The entire set of horizontal glands of the head, with the exception of the buccal, part of the paroitid and part of the sub-maxillary glands, send their efferent vessels to the superficial lymphatic glands of the neck. In addition to these, the superficial lymphatic glands of the neck receive afferent vessels from the superficial part of the ear and integument of the neck. The efferent vessels of the superficial glands of the neck are afferent to the deep cervical glands.

It is not difficult for the surgeon or physician to readily recognize the infection of the superficial lymphatic vessels, which may result in an enlargement of the horizontal set of lymphatic glands, and which may later involve the superficial cervical glands; but it is important to note the fact that as a result of an epithelioma of the lip the one-inch enlargement takes place in the sub-maxillary gland. When it passes these nodes it may result in an enlargement of either the deep or superficial set of cervicals, because, as can be seen by a glance at diagram No. 1, the sub-maxillary nodes give afferent vessels to both the superficial and deep cervical glands. An infection or malignant trouble of the floor of the mouth or anterior part of the tongue will also result in a secondary manifestation of the trouble in the sub-maxillary glands, while in infections or malignant troubles of the posterior portion of the tongue, deep or superficial, the secondary manifestation will appear in the sub-lingual glands, which ul-



timately may be transmitted to the deep cervical. When we come to study the deep tributaries of the deep cervical lymphatic glands we find the clinical manifestations more difficult to trace; yet, on account of the deepness and proximity to important structures, more important for us to recognize.

Fortunately, the deep lymphatic glands of the head, which give their afferent vessels to the deep lymphatic glands of the neck, are not numerous. The posterior pharyngeal glands are located on the side of the pharynx back of the buccanator muscle. They receive their tributaries from the inner and posterior part of the nose and pharynx and deep prevertebral muscles.

All are aware of the very great frequency of inflammatory troubles, especially of the inner and posterior part of the nose and pharynx. Pus bacteria gain admission through these inflamed and abraded membranes, producing abscesses which have been known to break externally, but under less favorable circumstances to burrow along the planes of the deep cervical facia and empty into the thoracic cavity. The deep lymphatics from the interior of the cranium, which collect the lymph from the brain and meninges, and also intimately communicate with the sub-arachnoid and sub-dural spaces, pass into the deep cervical lymphatics. In cases of abscess or malignant trouble, with the brain or its meninges, enlargement of the deep cervical glands may result, which is an important point in the diagnosis of intracranial infective troubles. The upper and posterior part of the tongue give afferent vessels to the sub-lingual glands, whose efferent vessels pass into the deep lymphatic glands of the neck and produce in them the first secondary manifestations in cases of carcinoma of the tongue. The internal maxillary glands receive the lymph from the zygomatic and temporal fossæ, interior of the orbit, roof of the mouth and anterior portion of the interior of the nose. In cases of obscure infective trouble of the posterior portion of the orbit, the internal maxillary gland should be examined for the purpose of obtaining light upon this subject.

It must be remembered that the lymph from the globe of the eye travels along the perineural and perivascular spaces of the optic nerve and ophthalmic artery back to the arachnoid spaces of the brain, and thence through the intracranial vessels to the deep cervical glands of the neck. In addition to these, afferent vessels are given to the internal maxillary gland from the upper part of the pharanx, roof of the mouth and palate.

Therefore, we find the afferent vessels of the deep cervical lymphatic glands to be the efferent vessels of the superficial lymphatic glands, the posterior pharyngeal, the lingual, the internal maxillary, and a part of the sub-maxillary, with the lymphatics of the interior of the cranium and the deeper structures of the neck, the middle of the pharynx, the upper part of the trachea, larynx, œsophagus and the thyroid body. Hence infection resulting in any of these regions may produce its secondary manifestation in the deep cervical lymphatic glands.

Pathological Considerations.—That the diseases of the lymphatics are usually of secondary origin is not questioned. Many believe that these diseases are quite uniformly, if not always, of bacterial origin.

The lymph glands act in a certain sense as filters. However, they are more than filters. They are susceptible to changes, as a result of irritations, which partially or entirely lock up the glands, in an effort to destroy or arrest the entrance of the materies morbi into the systemic circulation. Many times this results in acute or chronic inflammation, which may disappear without treatment, be reduced by local treatment or call for surgical intervention.

Two of the most frequent causes of lymphatic involvement are the irritants or ptomaines produced by bacterial and tubercle bacilli. There are other chemical irritants generated in the system which play an important part in the pathology of the lymphatics. Just what these irritants are and how they are produced is not well understood.

Leukemia is a disease of the blood and blood-making organs, which is characterized in part by an enlargement of the lymphatic glands. No bacteria have ever been found to satisfactorily account for this disease. While the cause is not known, the enlargement of the lymphatic structures is probably due to some chemical irritant. Some, however, believe that this disease is also of bacterial origin. It is not strange that the lymphatics should frequently be

the seat of secondary troubles, when it is remembered that they begin in capillaries, interstices and lacunar spaces between the cells of every tissue of the body. They are ready to receive and carry the effete material or causative factor, whether known or unknown, of every tissue involved. The glands or nodes of the lymphatic system stand as sentinels to guard and protect, until destruction or death, the blood and general system from invasion of the causative factors of the local disease. This is well illustrated by septic troubles, which produce swelling and redness of the vessels, and swelling and enlargement of every node in the course of the chain of lymphatics involved. Tuberculosis is likewise arrested and many times the bacilli are destroyed or held in abeyance until nature, or, more frequently the surgeon's knife can remove a part or all of the trouble.

Surgical Diseases of the Cervical Lymphatics.—The class of disease involving the cervical glands which most frequently calls for surgical intervention is usually bacterial in origin. Their diseases are the same as the disease of the lymphatics in other portions of the body. As has been stated, they are largely secondary in origin. Certain diseases of the lymphatics do not involve the cervical nodes at all, as elephantiasis, macroglossia, etc. Others do involve the cervical nodes but are not amenable to surgical interference, as Hodgkin's disease, etc. Of those diseases which are amenable to surgical treatment, tuberculosis is, without question, of the first importance. Pus infection of the glands stands second in importance and epithelioma third.

Elephantiasis is a disease of the lymphatic vessels, and spaces, which affects mostly the lips, extremities and genital organs. Cavernous and cystic lymphangioma are rare diseases but are met with in the cervical lmyphatics. The cystic form may be mistaken for lymphoma or angioma and is difficult to differentiate from branchial cysts.

Hodgkin's Disease, lymphosarcoma, or malignant lymphoma, involves the cervical nodes with other lymphatic structures of the body. In this disease the swelling is soft and the enlargement more uniform than in other glandular enlargements.

Carcinomata of the cervical lymphatic nodes are not an infrequent occurrence, due to the fact that the lymphatics are the principal channels through which carcinomata are disseminated. By referring to diagram No. 1 it will readily be seen that an epithelioma of the superficial structures of the ear will show its metastasis first in the upper superficial lymphatic nodes.

Carcinomata are transmitted by the lymphatics more frequently than by the blood vessels, because the epithelial cells push aside the organized walls of the blood vessels. They readily enter the lymphatic interestices and laminæ, which do not have well organized limiting walls. From these lymphatic interstices the cells are carried by the lymph stream to the nearest nodes, where they are arrested.

Carcinomata are sometimes disseminated through the blood vessels. There is no tendency on the part of carcinomata to the formation of new blood vessels. They are developed from a different kind of embryonal tissue from that which forms the blood vessels. In order for the carcinomatous cells to gain entrance to the vessels of the part which is affected by the new group, an opening in their walls must be effected, as by ulceration or accidental injury.

A carcinoma of any of the superficial structures of the face will produce sooner or later an infection of the submaxillary nodes, except in the regions tributary to the parotids, and all will ultimately reach the deep cervical nodes, some traveling to the superficial cervical, while others travel directly from the submaxillary to the deep cervical nodes. Carcinomata of the lymphatic glands are always secondary, as they do not contain epithelial cells.

Sarcomata occur in the cervical nodes primarily, but are usually secondary to sarcomata of other regions. In 1893 I was called to examine and operate upon a case of sarcoma involving the axillary glands, brachial plexus and axillary vessels. The tumor was the size of a large orange with metastatic involvement of the cervical lymphatic glands, some of which were the size of an English walnut. This metastasis can only be explained as far as our anatomical knowledge goes as a result of transmission through the external brachial lymphatics, which follow the course of the sephalic vein over the shoulder.

Tuberculosis of the Cervical Lymphatics.—"Caseous chronic lymphingitis and adenitis is one of the most common affections

of childhood and adolescence," says Gerster, "Antiseptic and Aseptic Surgery." "Its foundations are generally laid by chronic affections of the oral, nasal or aural mucous membrane, by tubercular affections of the cervical vertebræ, and by lupus or eczema of the face and scalp." Since it is fairly well settled that the actual entrance of tubercular bacilli is necessary to the development of local or constitutional tuberculosis, whether during or after fetal life, and that catarrhal affections favor the entrance and lodgment of tubercle bacilli, it is important that the mucous membrane of these organs, which are the most frequent seat of entrance of the bacilli, should be kept in as healthy a state as possible. That many cases of tubercular adenitis of the cervical region are let run until complete removal is impossible, is due to the combined cause of ignorance and fear of operations on the part of the patients and carelessness and ignorance in diagnosis on the part of many physicians. When the disease extends beyond the capsule of the gland it involves the connective tissue and adjacent structures. The muscles, nerves and blood vessels are bound together in one inflammatory mass. The vascular walls may become friable or ulcerated through. The tubercular caseous material may thereby be turned into the general circulation, producing involvement of other organs or general miliary tuberculosis. There is no operation in surgery that requires greater skill in its performance than that of removing tubercular glands and tubercular tissue of the neck under such conditions. The large vessels have been accidentally torn and all of the important nerves of this region have been accidentally cut at one time or another by good operators. The pleura has been accidentally opened, the thoracic duct cut. At times, in severe cases, it is necessary to remove sections of the vessels, usually of the internal jugular, where its walls are tubercular. At times the disease destroys the life of the patient. For one who is perfectly familiar with the location of the important anatomical structures of the neck, the removal of the cervical lymphatic vessels and nodes before the involvement extends beyond the capsule of the gland and vessel walls is one of the nicest operations in surgery. To obtain permanent relief, thoroughness of removal is the most important point about the operation. Under the most favorable circumstances, and in the hands of the most skilled operators, tubercular disease of the cervical glands, when arrested in childhood or adolescence, has returned in other portions of the body in adult life.

On account of limited space I will defer the consideration of the surgical importance of pus infections of the lymphatic glands to a time when I shall consider the surgical importance of the lymphatics of the pelvis and genito-urinary organs.

100 State street.

Gynecological Clinic.

By Geo. W. Newton, M. D.

Professor of Gynecology, Chicago Clinical School; Attending Gynecologist, West Side Hospital.

[Given at Chicago Clinical School, October 16, 1899.]

The following history, gentlemen, is the record of the case of the lady who is now upon the operating table. We have not seen her before, therefore I ask you to follow the history carefully, for I shall expect you to form some intelligent opinion as to the diagnosis after you have heard me read her history. Please do not understand me to mean that you can make a correct diagnosis without an examination, but as certain diseases or conditions in a woman's pelvis produces certain symptoms, we should be able to form some idea as to the existing conditions without an examination.

Mrs. F., aged 39, married twenty years; occupation, housewife. Menses began at fourteen, regular. Date of last menstruation, October 1. Her recent menses have been profuse in quantity, red in color, some odor; last six or seven days; come every twenty-three or twenty-four days and somewhat painful, the pain beginning two or three days before the flow. She has had five children, aged 17, 15, 13, 9 and 8 respectively. She has had two miscarriages, which occurred in '92 and '96. She was about three months along in each case. Her labors have been natural excepting the first, when she had to have instruments applied.

This lady says she has not felt well and strong for two years. She complains of backache, dragging down sensations in the pelvis, headache on top of head, disa-

greeable sensations at nape of neck, cold hands and cold feet. She has some leucorrhea, bowels constipated, urinates frequently; appetite poor; digestion poor.

First, let me advise you to get in the habit of taking the history of your patients in some regular methodical manner. It consumes a little time at the first visit, but it makes a good impression on your patients and shows them that you are thorough, and at the subsequent visits you are saved the mortification of asking questions that she thinks you ought to remember. Patients are also much more apt to return if you have their written history, for they think you will know all about them.

Now, from the clinical picture which this history presents, what do you think is the matter with this lady? I will tell you that she is illy nourished, is anemic and has a rapid pulse. We will consider the major symptoms, for we know if certain conditions exist, minor complaints are sure to follow. In the first place she has menorrhagia and dysmenorrhea and she tells us that the pain precedes the flow two or three days. That is a diagnostic point, for we know that means she is suffering from congestive or inflammatory dysmenorrhea rather than neurotic or obstructive. Then these two symptoms, menorrhagia and congestive dysmenorrhea, indicate what? That she has endometritis, a subinvoluted uterus, salpingitis and ovaritis. She may be suffering from all or one of these pathological processes. When I say salpingitis that does not necessarily mean pyosalpinx. She may have a simple catarrhal salpingitis, simply an extenuation of the process from the uterus out to the tubes.

Next, she has had two miscarriages. What does that indicate? It may mean nothing, but taken in connection with the rest of the history, we would not be stretching our imagination if we should suppose it meant a lacerated cervix, for we know that laceration of the cervix is a recognized cause of miscarriages. Without theorizing any more we will make an examination. Before inserting our finger in the vagina we should assure ourselves of two facts: First, is the bladder empty? Second, is the perineum torn; and before you say the perineum is all right ask the patient to bear down, for there may be quite a cystocele or rectocele which is not apparent as she lies there, but it will be very apparent if you ask her to bear down. Now we proceed with the examination. There has been a tear of the perineum to the second degree. She has a rectocele, and as you ask her to strain you see she has a commencing cystocele. The uterus is in normal position but much enlarged or subinvoluted. There is a bilateral tear of the cervix with a great deal of erosion and thickening of the lips. As I exert pressure over the region of the Fallopian tubes and ovaries she complains of tenderness. Her left ovary is enlarged and prolapsed. I cannot palpate the right one. It is impossible to outline the tubes, although they are marked sensitive on pressure. We will look at the cervix through the speculum and we see a cervix that is lacerated, eroded and cystic degenerated. Our diagnosis then is perineum torn to second degree, rectocele and beginning cystocele, cervix torn bilaterally, eroded and filled with retention cysts, uterus subinvoluted, catarrhal salpingitis on both sides, left ovary prolapsed and enlarged. The enlargement is probably due to parenchymatous inflammation. It is impossible to palpate the right ovary to-day. That may be also enlarged, but is out of our reach, and she is so sensitive that she will not stand much pressure. What will we do, then, to restore health to this woman?

There is no doubt but that causes outside of the pelvis have had their weight in the breaking down of her health, and if we wish to treat her successfully we must find out what deleterious influences have been brought to bear, and if possible to remove them. We will consider what are some of the principal causes of sexual diseases in women: They are neglect of proper exercise in the open air, improperly cooked and insufficient food, improper clothing, chronic constipation, imprudence during the menstrual period, over-expenditure of the nervous strength, prevention of conception, assuming the duties of marriage when the sexual organs are not in a healthy condition, the bringing on of miscarriages, neglect of repairing the injuries done to the sexual organs at childbirth. Only a small percentage of women spend sufficient time in the open air and yet they wonder why they lose their health. How

many men would be healthy if they only spent a few hours a month out of doors?

We all need the exhilarating effect of outdoor exercise. This is true of women in every walk of life, but particularly so in the class to which this woman belongs. She is poor and has to work hard to obtain the necessaries of life. Therefore the treatment of such a case is rendered all the more difficult because it is hard to correct that error. She tells us that she sleeps poorly. She is nervous, and upon asking her how much tea and coffee she drinks we find that she depends upon tea and coffee for her strength rather than upon nutritious food, and we note that this acts simply as a nerve stimulant and therefore must be abandoned. We will advise her to choose a certain bill of fare. In other words, we will tell her what to eat and what not to eat. Telling patients to be careful of their diet as a rule means little to them. We must designate the articles of food we wish them to eat. We will aim to so regulate the diet and habits in this woman's case that her bowels will move regularly every day, and if we find that it is necessary to give any medicine, she can for a while use cascara sagrada. She has told us how hard she has to work and it is impossible to do such cases good unless they will stop using up more nerve force than they produce. She has been working beyond her strength and the result is she is bankrupt nervously and physically. She tells us that she has poor appetite and poor digestion. We will therefore give her some medicine which will stimulate her excretory and secretory organs. She needs iron, but iron is contraindicated in all cases where the alimentary canal is not in a condition to receive it. A contraindication for iron is a coated tongue. Never give it until the tongue is clean. Food well digested, with fresh air, are the best blood makers we have. Iron is an efficient aid when, as I said before, it can be assimilated. In speaking of this woman's diet we did not ask her in regard to her habit of drinking water. She tells us that she drinks water freely at her meals. This habit must absolutely be stopped. It is unwise to drink much water at meal time of any temperature. It is doubly so when the water is very cold. Ice-cold water retards digestion. To relieve constipation there is no more effective means than drinking plenty of water, but it should be drunk between meals, the last thing at night and the first thing in the morning.

Remember the history. It told us that she complains of disagreeable sensation at the nape of the neck and top of the head. Women who have chronic congestion and inflammation of the uterus are very apt to complain of such symptoms. I have given her advice as to her mode of life, diet, etc. We will now return to discuss the local conditions. As you have seen demonstrated, this woman is suffering from the injuries of childbirth and from certain processes that have developed as a result of these injuries. Certainly, then, there is an indication to repair, if possible, the damage that childbirth has done, and with the hope by so doing of preventing further pathological results and of restoring her organs to their normal condition.

To prevent a further prolapse of the bladder and prolapse of the uterus we will attempt to furnish these organs with their normal support, of which they have been deprived since her perineum was torn. As you notice, the posterior wall of this woman's vagina is not in contact with the anterior wall. The object of operations on the perineum is to restore the functions of the levator ani and sphincter vaginæ muscles. Therefore an operation here is strongly indicated, for those muscles in this woman are not acting.

Now what can we do to cure the subinvolution, endometritis, salpingitis and her ovaritis? For the enlarged ovary and tubal trouble we might recommend a radical operation, but I believe that simpler means should first be tried. Therefore, I shall advise this woman to have a curettment of the uterus and an operation on her lacerated cervix. The operation that I would do on this woman's cervix is what is so called Schroeder's operation, which, as you know, consists of resection of the cervix. Emmet's operation is not satisfactory when there is great thickening and hypertrophy of the lacerated lips or when there is excessive cystic degeneration of the Nabothian glands. It does not remove enough of the diseased tissues. By doing these two operations the uterus in time involutes, and as the uterus involutes the ovaries will also probably involute. And as the endometritis improves and the congestion is relieved the trouble with the tubes will be much bene-

fited. Later on it may be necessary to remove the tubes, but it is safe to wait. If this patient can and will have these operations performed, and will follow our advice in regard to her diet, habits and mode of life, there is no doubt as to her future history. Benefit is sure to follow our prescribed methods of treatment, but if she expects to pursue her former methods of life after having had these operations performed she and we will be disappointed.

There is no doubt as to the indications of the operation in such cases, but too much is apt to be expected from them and practically too immediate results. This woman will not reap the full benefit of the operation for one year.

Proctological Clinic.

By J. Rawson Pennington, M. D.,
Professor of Rectal Diseases, Chicago Clinical School;
Surgeon-in-Chief, Good Samaritan Hospital
for Fistula and Other Diseases of the
Rectum; Consulting Surgeon,
Mary Thompson Hospital
for Women and Children, etc., Chicago.

[A Clinical Lecture delivered at the Chicago Clinical School, August 8, 1899.]

Gentlemen:—The first patient to whom I wish to invite your attention this morning was sent to my clinic at the outdoor department of the Good Samaritan Hospital for Fistula and Other Diseases of the Rectum, by Dr. Webster. She is thirty-five years old, and for the past eighteen months has been passing at least a teacupful of pus daily per rectum. The question now is, where does all of this pus come from and what is its cause?

It might come from an old abscess of the tube or ovary that had ruptured into the bowel or from an abscess located in some other part of the pelvic cavity, but the examination just made and the history eliminates all such sources. Hence, we must look for and find its origin somewhere in the bowel. She being arranged upon the table, you notice hemorrhoids protruding as she bears down, but they cannot account for this daily discharge of pus. By passing my finger into the bowel, can't say that I distinguish any special pathology, yet I do feel a roughness which gives to the touch the expression of an ulceration. The hip being well elevated, we now pass a tubular speculum gently into the rectum. On removing the obturator you notice it covered with pus. By looking into the rectum through the speculum you will notice that all of the chambers are thoroughly saturated and filled with a thick, creamy pus. Having bailed out the pus, you will observe that the walls of the bowel are greatly inflamed and thickened and covered with ulcerated spots with a whitish base. There seems to be a growth about 3½ or 4 inches up the bowel. A more careful examination, however, proves it to be one of Houston's valves, hypertrophied and enlarged.

What is the specific cause of this ulceration? The doctor tells me that he treated her husband some two years ago for gonorrhea and her trouble began about the same time. Now, the question is, did he infect his wife and she in turn infect her rectum from the overflow. That is the most plausible solution of the problem at the present. However, we will not make a positive diagnosis until the pus has been examined. In the meantime we will treat her with injections of a 1 per cent solution of argentum nitras.

Another point in regard to her condition: She has had chronic constipation for a number of years and for the last two years has used from one to three quarts of water daily to move her bowels. Now, if this be a case of gonorrhea, and I feel quite confident it is, I would not be at all surprised to know that her entire colon is infected. You will readily see that these large enemas would necessarily carry more or less of the pus high into the colon, and I can see no reason why it would not become infected.

The next case is 29 years old. She gives a history of pain during defecation and the discharge of mucus at stool. She also gives a history of constipation and says that she takes medicine constantly to move her bowels. Observe her sallow and waxy complexion. You notice that by carefully questioning her we elicited the following symptoms: Headache, drowsiness, lassitude, loss of ambition, "tired feeling," impaired appetite, palpitation, indigestion, flatulence, nervousness, irritability, cold hands and feet, pains in the back and limbs, etc. It is plain to see that this patient, apart from the pain during defecation and the discharge of mucus, for which she has sought for our aid, is suffering from

auto-infection or self-poisoning. To cure this class of patients it is absolutely necessary to locate and remove the cause of the trouble; otherwise it is simply a waste of time, energy and money.

The muddy complexion she has is due to the absorption of fecal matter into her blood and its deposit in her tissues and skin. Many of the symptoms which we have just elicited are due to the same cause.

The nurse now having her arranged upon the table, we will begin our examination by first making a bimanual eversion of the buttocks and inspecting the field. By commanding her to bear down you observe the pelvic floor come down; you also notice a fissure in the posterior anal quadrant. Having carefully examined each quadrant the next step shall be a digital examination of the anus and palpation of the pelvic floor between the thumb and finger. The next step in the examination consists in the introduction of the anoscope. In doing this the patient is requested to bear down. Bearing down depresses the pelvic floor, dilates the external sphincter, the internal sphincter is made to relax by the constant pressure and the two sphincters climb, so to speak, over the instrument. The obturator being withdrawn, you notice a pile tumor in the right lateral quadrant. As I withdraw the instrument you notice the fissure in the posterior quadrant. We will touch it with nitrate of silver.

This is as much as we will do for this case to-day and at our next clinic will complete the examination.

The second patient to whom I invite your attention came to the clinic three weeks ago with a history of most intolerable itching around the anus, especially at night, and also the protrusion of large tumors and bleeding at stool.

The patient being arranged on the table, you at once notice the peculiar white color of the skin surrounding the anus. To the touch it is hard and leathery. The whitish color is due to the disappearance of the pigment. In many cases, especially if not of long duration, the color of the skin will not be changed. This is a case of Pruritus ani. Pruritus sometimes affects the skin of the entire body, but it more frequently attacks isolated portions, and the anal region is one of its most common seats. It frequently extends up the anus and affects the adjacent mucous membrane and may spread to the scrotum in the male and the vulva in the female. The itching in many instances is most intolerable. In fact, only recently a young lady came into my office and just as the door was closed behind her, exclaimed, "Doctor, I am suffering from the most intolerable itching around the anus, and I have tried everything that has been suggested, with no benefit, and my doctor has now sent me to you, and if you do not give me some relief I will kill myself, for this is my last and only hope."

Pruritus is frequently aggravated by heat, hence the reason it is worse when the patient it in bed.

In regard to the cause there has been a great deal of discussion, some contending that it is a local disorder, while others equally well qualified to give an opinion contend that it is a constitutional ailment with a local expression. Some think it due to constipation, others think it neurotic, while still others ascribe it to the habits of the patient. It is most common, however, in middle-aged and elderly patients of the male sex. Excessive eating and drinking sometimes aggravates it. It is not uncommon in gouty subjects. You frequently find it associated with eczema of the perineum. Certain articles of food, such as shellfish of various kinds, are said to provoke it sometimes in those predisposed to pruritus, while beer, champagne and excessive smoking excite it in other cases. In the neurotic subject the pruritis attack may be induced by any special strain upon the nervous system. In some cases it is due to uncleanliness and insufficient ablution of the part. Mr. Allingham says: "Most people seem to forget that the anus requires quite as much washing as the face."

You will sometimes notice it following operations upon the rectum, where the power of the sphincter is lost to some extent. A small fistulous opening may be the cause.

Treatment.—To successfully treat these cases it is important to locate the cause and remove it if possible. The treatment should be both general and local. If the patient has a fistula, hemorrhoids or other rectal ailments, they should be removed. If he had thread worms they should be treated in the usual way and removed. You must differentiate it from eczema of the part, for the treatment is very different. When this patient first came to me I

painted the part with the compound chloral lotion, which consists of equal parts of chloral, tr. iodine and carbolic acid. I did this to destroy and remove the hard scarf skin. I shall now give him an ointment of menthol, carbolic acid, calomel, oxide of zinc and vaseline. A word now in regard to the tumors and the bleeding. You notice as he bears down a large pile tumor in the right lateral quadrant, another in the posterior quadrant and still another in the left lateral quadrant. We would operate upon these tumors but for a very bad mitral murmur which he has, and has been advised not to risk an anesthetic.

The next patient to whom I wish to invite your attention was sent to me by our health commissioner, Dr. Arthur Reynolds. He is 19 years old. One year ago he had an ischio-rectal abscess that was poulticed and allowed to break, leaving a fistula as the result. His physician tried in vain to close the fistula by means of injections, failing to do so. The boy went to Cook County Hospital some eight or nine months ago and was there operated upon by one of the surgeons in charge.

As he lies upon the table you can readily see without moving from your seats that he still has his fistula, notwithstanding he has been twice operated upon. He also has incontinence of feces as the result of these operations. Bimanual eversion of the buttocks plainly exposes a deep sulcus in the left lateral quadrant, due to a division of the sphincter at that point.

A careful examination shows that he has an extensive horseshoe fistula extending around the bowel posteriorly, with an internal opening in the posterior quadrant between the external and internal sphincters. To cure this patient it will be absolutely necessary to divide all of these fistulous tracts. In his present state it will be very hard to do a satisfactory operation upon him, as he already has incontinence of feces, the result of the former operations, and still has a fistula entering the bowel. This is a very sad condition of affairs and will tax the surgeon's ingenuity to the utmost capacity to make a perfect result. I believe, however, that this patient can be successfully operated upon by first thoroughly dividing the tracts running around the bowel, then thoroughly curetting the one entering it posteriorly. By operating in this manner, then being careful about the after treatment, I think we will succeed in curing the fistula. This done, we will then turn our attention to the incontinence which he has, and in his case I think can best be treated by the application of the Paqulin cautery to the eschar and perhaps burning into the sphincter in one or two other places.

Stricture of the Lachrymal Duct.

By H. W. Woodruff, M. D., Joliet, Illinois.
Assistant Surgeon at the Illinois Charitable Eye and Ear Infirmary, Chicago.

In considering the subject of "Stricture of the Lachrymal Duct," your attention is called to one of the most annoying and obstinate conditions which we are called upon to treat; annoying and obstinate both from the standpoint of the patient and the surgeon. It is a common sight in any eye clinic to see patients being treated for dacryocystitis by slitting the lower canaliculous and probing the canal duct with Bowman's probe. What proportion of these cases are cured and in what length of time I am unable to state; but judging from my own experience in the past and from observation, the number of permanent cures is not large. So obstinate are most of the cases that one writer who has published a treatise on diseases of the eye, speaks in a very discouraging way of his want of success in relieving stricture of the nasal duct by slitting the canaliculous and probing. What, then, are the causes of failure? Seldom can there be any trouble as to the diagnosis. Of course, conservative surgeons do not slit the canaliculous and probe the duct of every patient suffering from epiphora any more than they would amputate in every case of compound fracture or cut an ocular muscle for headache. Epiphora may be due to an excessive secretion of tears as well as to an obstruction of the outlet, as in ocular inflammation in general, and in eye strain. These causes may be excluded by careful examination of the eyes and examination under a cycloplegic for the correction of any existing refractive error. Epiphora may also be reflex from some irritation of branches of the tri-facial nerve. But when a patient presents himself with a swelling of the lachrymal sac and pressure will not cause the contents to flow into the nose, but

rather out of the punctum into the conjunctival sac, we have a case of closure of the nasal duct somewhere.

On account of the great vascularity and valve-like folds into which the mucous membrane of this canal is thrown, which is also, as in the middle ear, the periosteal lining, a slight amount of inflammation may easily lead to temporary closure of this canal. This condition is a not infrequent concomitant of acute rhinitis from simple extension of the inflammatory process or from acute swelling of the inferior turbinated body.

In the majority of these cases the occlusion is as transient as the rhinitis and calls for no special treatment other than that directed to the nose itself. If other treatment is called for the method of Burnett may be useful.

℞. Ac. boracic, gr. x.
Sodii Chl., gr. iii.
Zinc. Chl., gr. i.
Aq. Dest., ℥i.
M.

The sac is alternately emptied and filled with this solution by pressure with the finger. If the sac cannot be emptied into the nose it shows that the stricture requires more heroic measures. There have been objections to the use of probes; but for chronic stricture of the nasal duct there is no other treatment except the obliteration of the lachrymal sac, either by removal or by the cautery that does not require some probing. Slitting the canaliculous and probing has been brought into disrepute by its indiscriminate use.

As I have said, it certainly should not be used where there is doubt as to the presence of a stricture; but where it is indicated and rightly used in every detail there is no other method that offers as much hope for an ultimate cure.

My attention was called a year or so ago to the advantage of slitting the upper canaliculous instead of the lower. The principal advantage is that the physiological function of the punctum, canaliculi and sac are disturbed the least.

The lower being the larger must perform the most work. The tears find their way to the sac both by capillary attraction and by the pumping action of the lids, aided by the elasticity of the sac itself. I am aware that most authors recommend slitting the lower and it is very rare to see a patient who has had the operation performed on the upper. The only reason for using the lower is that it is somewhat easier to cut, being of larger caliber and shorter. Meyer, Schmidt, Rimpler, Noyes, Swansey, Roosa, De Schweinitz, Norris and Oliver and Fuchs either recommend the lower or say that either can be used. De Wecker says the physiological function should be disturbed the least, but slits the lower. Spencer Watson says in view of the fact that the tears gravitate toward the lower, the part performed by the lower is greater. Another advantage of probing through the upper divided canaliculous is that the probe enters the sac at an angle of forty-five (45) degrees instead of horizontally as in the lower, so that there is no twisting of the parts when the probe is brought into the vertical position.

Another, and I think the most frequent cause of failure in the treatment of these cases is that we do not use large enough probes. About twenty years ago Dr. Theobald of Baltimore began the use of probes larger than the No. 6 Bowman's. He had demonstrated that the average size of the adult nasal duct is four and one-half mm. In seventy adult ducts he found none so small as not to admit a probe of a caliber of three mm. and only six through which a larger one could not be passed. So he had made probes graded in size up to the No. 16, which has a diameter of four mm. The points are much less blunt than the Bowman probes, it being an impossibility to pass a probe of large size into the sac unless the point is more conical. It is an absurdity to attempt to cure a stricture of a canal by probing unless the probe ultimately approaches in size the normal caliber of the canal. Patients will not always submit to this treatment, which is always painful when a larger probe is being used at each visit; but cocaine will give much relief if injected into the sac. If the probe is greased with vaseline and cocaine it is less painful when in position and when being removed.

The length of time necessary for a cure varies, of course, with the case. Where a larger sized probe can be passed at each visit a cure has been effected in two months. if one year of uninterrupted relief is a sufficient time to judge. Patients can be taught to use the probes themselves, or canulas be used; but these are only make-

shifts to avoid continued visits to the surgeon. Canulas are but seldom used and should never be used unless the shoulder is broad enough to prevent its entire passage into the nasal duct, and even then they should be occasionally examined, as the tubes may become clogged with secretion or with a foreign body. About two years ago a girl of fifteen came to my office with an acute abscess of the lachrymal sac due to the presence of a canula which either never had a shoulder or had lost it and dropped entirely into the duct. It was removed under chloroform and afterward the duct was probed several times and then the patient instructed to probe the duct herself, which she does successfully up to the present time about once a week. However, I would not now advise the instruction of the patient in passing the probe where it is possible to give him two months' continuous treatment with large probes, as my late experience with the large probes has been so much more gratifying than any treatment before used. Writers on this subject are all very careful to emphasize the necessity of nasal treatment in these cases; but I believe an examination of the nose in these cases, at least in dispensary work, is the exception rather than the rule.

Aside from the extension of disease from the nose to the duct, there may be conditions which interfere mechanically, as pressure of the inferior turbinated body from hypertrophy, vaso-paresis or myxomatous degeneration. There may also be pressure from a deviated septum, or adhesions between the turbinated and external wall or floor of the nose may exist. Neoplasms and even crusts may require removal as being causative factors.

An irritating secretion in the nose may be a reflex cause of epiphora without any closure of the duct.

The points, then, which I wish especially to emphasize in this paper are (1) the slitting of the upper canaliculous, (2) the use of large probes, and (3) the examination and proper treatment of the nose.

Dowieism seems to be in bad odor, at least Zion's Tabernacle was in bad odor during "Dr." Dowie's lecture on "Doctors, Drugs and Devils," recently delivered to the medical students of Chicago.

Reflections on the Anatomy of Inguinal and Femoral Hernia.

By W. T. Eckley, M. D.

Professor of Anatomy, Chicago Clinical School; College of Physicians and Surgeons (Medical Department University of Illinois), and North-Western University Dental School, Chicago.

[A Lecture before the Anatomical Class of the Chicago Clinical School.]

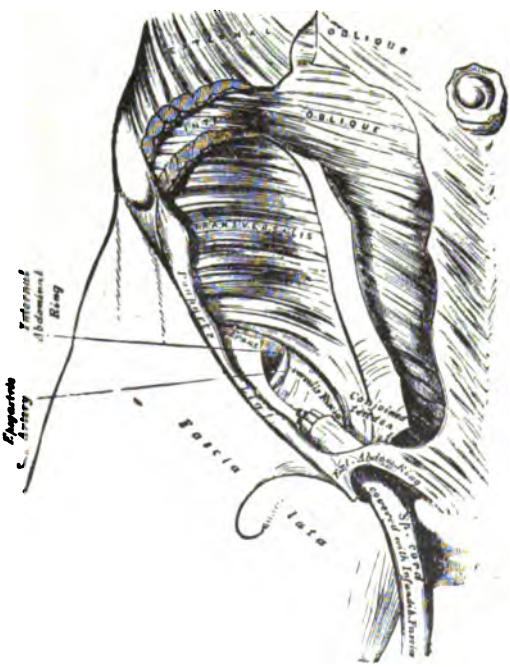
The abdominal walls share the natural frailties of anatomical regions in general. Other things equal, these walls are as well fitted by nature to discharge their physiological function, resist disease and injury, and regenerate when injured, as are the walls of the cranial and thoracic cavities. In each case the walls are successively strong here and weak there. The external angular process of the frontal bone and the mastoid of the temporal bone have their alternate weak areas in the orbital plate and in the vault of the glenoid respectively. The ribs represent great strength and resistance in comparison with the muscles and fasciæ that occupy the intercostal spaces. Not only in the human body, but in all structural organizations, shall we find weak places succeeding unto strong places, and this succession is in accord with a general law of philosophy.

In this dissection we must make a specific application of the universal law regarding the rythmical succession of strong places to weak places, in our study of the inguinal canal and the femoral canal. We must ask ourselves whether or not the dissection reveals strong boundaries of weak canals; whether or not the contrast between septum crurale and Poupart's and Gimbernat's ligaments is marked; whether or not the external abdominal ring is inclosed by strong aponeurotic pillars.

In estimating the comparative strength of given regions in the abdominal walls we must not lose sight of the principle in dynamics that the index of strength is the weakest, not the strongest, link in the chain. The durance of a given span in a bridge is many times that required under ordinary circumstances. Now, as growth has limits, so has its correlative strength. In the natural order of things repair must accompany the growth of a structure to insure its minimum strength. When growth and repair are divorced from each other in architectural engineering, disas-

ters like the Coliseum occur. When growth and repair are divorced in the architecture of the abdominal walls, then hernia occurs.

The frequency of hernia cannot be accounted for on the assumption that the inguinal and femoral canals are complex, since increased stability is the concomitant of complexity. I think the consensus of opinion of the profession must be that these abdominal weak places in man have grown weaker and weaker with succeeding generations, because there were wanting those muscular activities which the abdominal walls were fitted to perform. Growth, strength and hardihood are the correlatives of function; in the absence of function atrophy, inopia and frailty ensue. In the abdominal walls of man, then, we have to deal with a weakened physical condition that logically succeeds as the heritance of civilized man. Operative surgery is the compensating alternative that repairs the weakest link in the chain.



The inguinal canal contains, in health, the spermatic cord in the male and the round ligament of the uterus in the female. The canal is less than two inches in length. The canal is above Poupart's ligament in the sense that this room is higher than this floor. In other words, Poupart's ligament forms the floor of the canal. The outer end of the canal corresponds to the pubic spine. This spine is an important landmark and one not always easy of location on the patient. Find the spermatic cord just external to the pubic spine. The cord will disappear here through the outer end of the inguinal canal, called technically the external abdominal ring. For practically mapping out on the surface the inguinal canal, place the thumb on the pubic spine, the middle finger on the anterior superior iliac spine, and with the index finger bisect the distance between thumb and middle finger, placing the index finger a little above Poupart's ligament. The index finger will correspond to the internal ring, the thumb to the external ring, and the space between the index and thumb to the canal. If we will now cut down in this line through the skin and panniculus adiposus we will expose the aponeurosis of the external oblique muscle. This forms the outer wall of the canal. I cannot place too much emphasis on my admonition to you to exercise the greatest care in cutting through this outer wall of the canal.

The inguinal canal is, for purposes of a more critical analysis, considered geometrically as having the following parts:

1. An outer or anterior wall, composed of the aponeurosis of the external oblique muscle. This outer wall contains the external ring. The lower margin of this wall is called Poupart's ligament and extends from the spine of the pubes to the anterior superior iliac spine. The lower border of Poupart's ligament is curved inward and upward and grooved and thus forms the floor of the inguinal canal. Poupart's ligament is continuous with or attached to the fascia lata. Lastly, the outer wall of the inguinal canal forms the triangular ligament and Gimbernat's ligament.

2. An inner or posterior wall. This wall I desire you to study very carefully, as its structure is complex. You see on this dissection the peritoneum, transversalis fascia and extra peritoneal fat extending the whole length of the canal posteriorly; anterior to these structures, and occupying the inner two-thirds of the posterior wall of the canal, is the conjoined tendon of the internal oblique and transversalis muscles.

3. A roof, formed by the arched fibers of the internal oblique and transversalis muscles. It must here be seen that this

arch forming the roof is in apposition internally with the inner and externally with the outer wall of the canal.

4. A floor, formed by the grooved upper margin of Poupart's ligament meeting and uniting with the transversalis fascia of the posterior wall of the canal.

5. An internal end called the internal abdominal ring. This so-called ring is a "funnel-shaped expansion of the transversalis fascia which the cord carries on with it as it escapes from the abdomen." To the inner side of this ring is the deep epigastric artery.

6. An external end called the external abdominal ring. This is located in the aponeurosis of the external oblique muscle. This ring is bounded below by the pubic crust, internally and externally by the outer and inner pillars respectively and outside by the inter-columnar fibers.

The inguinal canal is a potential, not an actual, cavity, in health. The laxity of its architecture is such that its capacity may be increased to many times the size of the spermatic cord. When this distension occurs, as by the protrusion of a segment of intestine, the intestine may be reduced, but the resiliency of the structures forming the canal is not sufficient to restore the canal to its virgin size. The potential canal has become, through violence, an actual canal, and the protrusion is an inguinal hernia.

The inguinal canal is of embryological interest, since it was created by the passage of the testicle from the abdominal cavity to the scrotum a short time before birth. The migration of the testicle was only one of many important changes in the abdomen attending the order of transition from generality to speciality of structure in an early embryonic period; a primitive straight gut evolved a complex convoluted alimentary canal; intestinal rotation necessitated many acquired peritoneal attachments; diverging ilia gave the elongated and protected inguinal canal of the adult, in contradistinction to the short and poorly protected canal of the child. We are taught that a necessary consequent stability attends changes involving transition from generality to speciality. From this precept of philosophy there is no escape. Thus clearly, as previously intimated, the hereditary frailties of the human race are predisposing causes of hernia.

Prior to the descent of the testicle the following structures intervene between it and the external world along its line of march: 1, the peritoneum; 2, the transversalis fascia; 3, the transversalis muscle; 4, the internal oblique muscle; 5, the external oblique muscle; 6, the superficial fascia and the skin of the abdomen. The testicle gains the scrotum along a line of least resistance called the inguinal canal. The intervening structures enumerated above recede by growth and thus permit the uninterrupted progress of the descent of tes-

ticle. The testicle, aided in its descent by the gubernaculum, is a physiological hernia. It is an organ protruded from the abdominal cavity, via a succession of weak points, in a lne of least resistance, to an extra abdominal diverticulum, and in its passage it has induced the several constituents of the abdominal walls to recede by physiological growth.

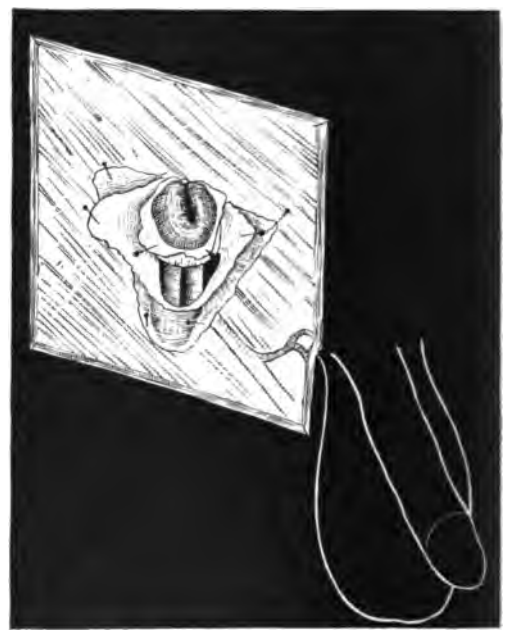
In the coverings of the testicle we are to find the particular part of a given constituent of the abdominal walls that receded before the descending testicle: 1, the peritoneum receded by growth and formed the tunica vaginalis testis; 2, the transversalis fascia receded by growth and formed the infundibulum or internal spermatic fascia; 3, the arch of the internal oblique and transversalis muscles receded by growth and formed the cremasteric muscle or middle spermatic fascia; 4, the external oblique aponeurosis receded by growth and formed the intercolumnar or external spermatic fascia; 5, the superficial fascia and skin re-

ceded by local growth and formed the scrotum. An inguinal hernia that follows the same course taken by the testicle in its descent will acquire the same investments from the constituents of the abdominal walls by the same physiological process of recession by growth.

The varieties of inguinal hernia are two, indirect and direct. The former passes external to the deep epigastric artery and traverses the inguinal canal from end to end, as did the testicle; the latter is internal to the deep epigastric artery and passes through a space called Hesselbach's triangle. The technicality underlying this classification of hernia will be appreciated when you recall the size of the dividing structure, one-sixteenth of an inch, the diameter of the deep epigastric artery. A hernia on either side of the artery might displace the vessel, so that a diagnosis of direct or indirect would have to be made out after the operation. Direct inguinal hernia may take the conjoined tendon as a covering instead of the infundibulum; otherwise the investments are practically the same in both the direct and indirect varieties. Hesselbach's triangle, as you may see on this dissection, is bounded externally by the deep epigastric artery, internally by the rectus muscle of the abdominal walls, and below by Poupart's ligament. Its floor, as you may show on your work, is formed by the conjoined tendon.

Let us now examine the posterior part of the inguinal region and see certain elevations and depressions. The elevations are: 1. The median or urachus. This is the fibrous remnant of the intra-abdominal part of the allantois. It passes from the apex of the bladder to the umbilicus. 2. The fibrous remnant of the obliterated hypogastric artery. During fetal life the hypogastric arteries conveyed blood to the placenta for aeration. 3. The deep epigastric artery. A branch of the external iliac. These elevations necessitate three fossæ: 1. The internal inguinal, between the urachus and the obliterated hypogastric artery. This corresponds to the external abdominal ring and transmits direct inguinal hernia. 2. The external inguinal to the outer side of the deep epigastric artery. This determines oblique inguinal hernia. 3. The femoral, between the deep epigastric artery and the obliterated hypogastric. This determines femoral hernia and corresponds to the femoral ring.

Femoral hernia derives its importance and name from the canal of like name located in the sheath of the common femoral vessels. This sheath is formed by the iliac fascia, which passes out of the pelvis behind the femoral vessels, and the transversalis fascia, which passes out of the pelvis in front of the same. The femoral sheath is made up under Poupart's ligament. In this place the sheath is trumpet shaped. The vessels fill only the outer two-thirds of the sheath. The inner one-third is occupied by a small amount of fatty connective tissue. This space is called the femoral canal. The beginning of the canal is called the femoral ring. The fatty connective tissue occupying the canal



weighs about two grains and is called the septum femorale. A hernia that finds its way through this canal is called femoral. The coverings of a femoral hernia, as you may now demonstrate on your cadavers, are: 1, peritoneum; 2, septum femorale; 3, femoral sheath; 4, cribriform fascia; 5, superficial fascia and skin. Just why two grains of fatty connective tissue, after having been spread in infinitesimal order over a protruding hernia, should figure among the covering of hernia, is conjectural only. Such homeopathic anatomical considerations should be expunged from regular medical literature, unless we are prepared to accept other absurdities of infinitesimals.

The West Side Hospital Training School.

ANNIE HEWITT BYRNE.
Superintendent of the West Side Hospital Training School.

The question, "What are the rules of your Training School?" and "What steps should a young woman take in order to gain admission?" have been asked me so frequently by subscribers and readers of the CHICAGO CLINIC that perhaps a few practical suggestions in regard to desirable applicants and the rules of admission to the West Side Hospital Training School for Nurses might prove both interesting and acceptable.

The choice of nursing as a profession should be well considered before a woman makes an application for admission to a training school. The necessity for self-support is to many persons the chief incentive to seek work of some kind, but money getting alone or a sentimental pity does not constitute a sufficient motive for entering this field of labor.

A woman to be a good nurse must have a conviction that nursing is her vocation, and be willing to fulfill it, as well as a firm desire to relieve human suffering by the most scientific and approved methods, with a determination to do everything that may in any way administer to the needs of the sick.

Following the motive comes the consideration of the fitness of the candidate. A woman may desire to become a nurse and be unable to attain her ambition. Certain physical qualifications are necessary, among them being sound health of body and mind, intelligence, trustworthiness, cleanly and orderly habits, a cheerful and willing disposition and an unblemished character.

A common school education is indispensable, but applicants are reminded that women of superior education and cultivation are preferred.

Applications for admission are made to the superintendent. Much may be learned from a letter of the writer's education and character, but when possible a personal interview is obtained. In reply to this letter a blank form and rules of admission are sent to the applicant.

With the answers to these questions, which embrace points regarding her age, height, weight, education, present and former employment, references, etc., she must send two letters, one from her physician and one from her clergyman, testifying to her physical, mental and moral qualities

The acceptable age limit is between twenty-one and thirty-one years, and if satisfactory applicants may be received at any time of the year when a vacancy occurs.

The candidate should bring with her two or three wash dresses, plainly made, six large white aprons, two bags for soiled clothing, a pair of scissors and a good supply of underclothing, each article to be distinctly marked with her name.

During the month of probation the prospective nurse is taught to take temperatures, to give ordinary baths and to assist the nurses in the care of the wards and private rooms. She will be required to scrub and clean vessels, bathtubs, lavatories, to answer the patients' bells, to carry trays and make herself generally useful.

During this period the probationer is required to pass an examination in arithmetic, writing, reading and dictation and to test her knowledge of mathematics, her ability to write legibly and accurately, to read aloud well and to take notes of lectures.

In doubtful cases the time of probation may be extended to three months. At this time board, lodging and laundry work are provided by the hospital. The probationer wears her own dress and may not wear the school uniform until she is accepted, when indoor uniforms and textbooks are furnished in addition.

Sometimes, however, the superintendent has the very disagreeable duty of refusing the candidate and not infrequently for reasons that might appear trivial. The ability to grasp situations quickly and willingness to perform any duties assigned with cheerfulness and thoroughness are necessary to her acceptance. The probationer has the privilege of leaving at any time during the month if she is dissatisfied.

Those who prove satisfactory are accepted as pupil nurses and will be expected to perform any duty assigned them by the superintendent, whether in the various departments of the hospital or if sent to private patients among the rich or poor.

The hours of work are nine hours day duty and twelve hours night duty. Pupils are given a half day off duty each week and the half of Sunday. They are not assigned to night duty for more than a month at a time nor until three months after entrance. Vacations are given during the

summer and at the Christmas and Easter holidays as the work of the hospital permits, four weeks being allowed in the two years' time. In sickness all pupils are cared for gratuitously, but the time so lost must be made up.

As the school is unsectarian there are no religious services connected with it, but all pupils are expected to attend the places of worship they prefer once on Sunday.

A regular course of lectures, recitations and demonstrations in the classroom, as well as didactic instruction at the bedside, is given by visiting and resident physicians and surgeons, the superintendent and her assistant and head nurses, and examinations are held at stated intervals.

Upon the honorable and successful completion of her course of two years the graduate receives a diploma signed by the attending staff and superintendent and the badge of the school. She is then at liberty to choose her own field of labor, whether in hospitals or private families or in district nursing among the poor, and will be expected for the next few years to make an annual report to the superintendent.

BOOK REVIEW.

The International Text-Book of Surgery by American and British Authors.

Edited by J. Collins Warren and A. Pierce Gould, in two volumes. Volume I, on General and Operative Surgery, now ready. Price, $5.00. Volume II is to appear January 1. These books are published by W. B. Saunders, 925 Walnut street, Philadelphia, which is a perfect guarantee for good workmanship and material in the book-making line.

The editors offer no apologies for making additions to excellent works on surgery already in existence. They say "Modern surgery is still in the transition stage of its developments. It is advancing rapidly." The aim is to produce a reliable text-book of surgery, embodying surgical pathology, symptomatology, diagnosis and treatment. The names of the contributors to Volume I are sufficient guarantee as to the value of the work.

J. Collins Warren, Professor of Surgery, Harvard Medical School, who is the author of one of the best modern surgical pathologies, is one of the associate editors and has contributed Chapter 3 in Volume I, which treats of Suppuration, Abscess, Ulcer, Sinus, Fistula. Chapter 2, Hyperemia, Inflammation, Local Infections and Their Termination. Chapter 7, Erysipelas, Hospital Gangrene. Chapter 8, Dislocations of the Hip. It is not necessary to consume space in the review of these articles, as it goes without saying that they are all treated in a masterly manner.

A Consideration of Surgical Bacteriology occupies the first forty-two pages of the book, written by Harold C. Ernst.

Surgical Pathology of the Blood is treated in Chapter 4 by Richard C. Cabot of the Massachusetts General Hospital, who is the author of a special work on this subject. He is considered authority.

Weller Van Hook, Professor of Surgery of the Northwestern Medical School, Chicago, has contributed two chapters in the first volume: Number 7 on Constitutional Reactions to Wounds and Their Infections; Chapter 8 on Hydrophobia, Anthrax, Glanders, Actinomycosis, Madurafoot, Snakebite, Insect Bites. Dr. Van Hook's reputation as a surgeon and pathologist is too well known to make it necessary to enter upon a critical review of these chapters.

New York is well represented by Chas. McBirney, on the Technique of Aseptic Surgery; Frank Hartley, on Operative and Plastic Surgery; Lewis S. Pilcher, on Fractures; and John Chalmers DeCosta has contributed an excellent article on Minor Surgery.

Among those chosen from abroad are: J. Bland Sutton, on Tumors, who has written one of the best works extant on this subject, and Wm. Watson Cheyne, on Diseases of the Bone.

The specialists who have contributed the articles to Volume I are of such international reputation as to make the book a desirable adjunct to the library of every surgeon and every physician who desires to keep abreast with the progress of surgical subjects. "The day has passed," as is well stated in the author's preface, "for one man to write authoritatively on the vast range of subjects embraced in modern text-books of surgery," therefore the editors have sought men of wide experience and established reputations in the various departments of surgery. The completion of Volume II will be anxiously awaited by the profession.—F. R. S.

The Chicago Clinic.

A HIGH-GRADE MONTHLY PERIODICAL DEVOTED TO THE MEDICAL PROFESSION.

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EDITORIAL AND BUSINESS OFFICES:

819 W. Harrison St., Chicago.

CHANGE IN MANAGEMENT.

As will be seen by our title-page, a change has been made in the editorial management of this journal. Hereafter the Clinic will be conducted by a committee appointed by the board of directors for that purpose. This action has been rendered necessary because the manifold duties of Dr. Coulter are such as to make it impossible for him to longer devote any considerable part of his time to this work. The doctor has been appointed chief medical examiner for one of the large life insurance companies. The responsibilities pertaining thereto are arduous and exacting. This work, with the care of his large nose and throat practice, will absorb his time. It is with much regret that we lose Dr. Coulter, but will endeavor to maintain the standard of excellence heretofore attained. We propose to make the Clinic practical and instructive, and trust the medical public will appreciate our efforts. R. S. M.

BUBONIC PLAGUE.

Bubonic plague has made its appearance in Europe after an absence of many years. It comes, of course, "out of the mysterious East." Thus far its foothold is slight, but that there is some danger of an epidemic there can be no doubt. To those who are familiar with the history of past epidemics the horror of such a contingency will be apparent. It is the best type of an acute infectious disease. It is highly contagious, very fatal, and spreads with great rapidity. Of late there has been much investigation into the rôle played by insects and domestic animals in the dissemination of contagious diseases. In the case of the plague it is claimed that rats form a potent factor in the spread of the bacilli.

A better knowledge of the laws of hygiene and better quarantine regulations will tend to stamp it out. But, on the other hand, increased facilities for travel and intimate commercial relations will favor its spread. It has never appeared in this hemisphere. Should there be, however, a widespread epidemic in Europe, it could hardly be kept from our shores. R. S. M.

PROFESSIONAL ETHICS.

We see the question agitated from time to time as to the advisability of deserting that ancient institution, the "Code of Ethics." We see it stated that it has outlived its usefulness, that it needs alteration, revision, that it is old and there must be nothing old in medicine.

It would seem that the object sought to be accomplished by the code is not always understood. It does not in any way restrict the honorable physician in the legitimate pursuit of his calling. It enunciates certain rules governing the physician in his conduct toward his professional brethren. But these rules are only such as govern the conduct of a gentleman toward his fellows. It is urged that charlatans, quacks and unprincipled physicians are not held in check by its tenets. This is true, but we cannot combat them by descending to their level. All we can hope is that by being honorable one with another, and with the people at large, we will be appreciated and re-

spected by the discriminating portion of the community. After all, the most important thing is a man's respect for himself; and we could have no self-respect should we violate the rules of honorable conduct among ourselves or between ourselves and our patrons.

Do we not overhaul our manifest from time to time? New ideas are advanced and old ones modified or discarded. We have new forms of treatment, based upon a better understanding of the causes of disease. Diseases are observed, studied, and named, that escaped the observation of our predecessors. There are new classifications and additional aids in diagnosis. But the gentlemanly spirit that actuates a physician in his daily contact with his fellows is always the same. To live up to the code is simply to be a gentleman—nothing more.

We have outlived many of the traditions of the past, but the spirit of the code of ethics will obtain, whether written or unwritten, so long as the medical profession recruits its ranks from the conscientious, educated, honorable portion of the community.

R. S. M.

PURE FOOD LAWS.

Of incalculable benefit to the community at large are the laws enacted and enforced by some states in reference to food products. It is a pity that such laws are not enacted by all states or by the general government. In states in which such laws are in force it is the duty of the manufacturer or dealer to place upon each package sold a statement showing exactly what the package contains. If he fails to comply with this law, or if his statement is not true, as shown by the analysis of the state analitical chemist, prosecution and conviction are sure to follow. Upon conviction the offender is fined in a sum that far outweighs any gain he may have made by his nefarious transaction. The law is practical. It is popular with the people and it is easily enforced. It thus differs from some hygienic or sanitary laws passed in the public interest, but which are difficult or impossible of enforcement. But while a pure food law is easy of enforcement, after its passage, it is difficult to get it passed by the legislature of the state. The money and political influence of wholesale grocers, manufacturers of spurious or questionable articles and their large and powerful following are exerted in the lobby to defeat such legislation. The newspapers cater rather to the wishes of those whose goods they advertise than to the interests of the people who compose their subscription lists. Hence their influence is exerted against the passage of a pure food law. Then there is apathy on the part of a large class of the community, which is content to let things remain as they are, rather than to secure a change, when such change can only be secured by hard and earnest work. These causes combined render it difficult to secure legislation in this matter.

It is well known to sociologists that most people purchase food with little judgment as to its nutritive value. In Ireland, if the same soil that is devoted to the culture of potatoes was used to produce the cereals—especially rye—famine would be unknown. Americans would do better to consume more corn and less wheat. People should be taught what to buy in order to procure for the least outlay the largest amount of bone and sinew producing material. It is the duty of the state to see that they are not victimized by unscrupulous or dishonest tradesmen. Thus far civilization has tended to lengthen the span of human life. That span can be still extended and a proper knowledge of the nutritive material required by the body and the best source from which to obtain it will greatly aid in securing that end.

A few years ago, in Cincinnati, a man advertised "dessicated eggs." He represented himself as buying of wholesale and retail dealers eggs that were broken or cracked, and for this reason unsalable, but

otherwise perfectly good. These he claimed to dry or dessicate and pulverize. His product being cheap, his transactions with bakers were large. The state chemist, upon analysis, found the stuff to consist of starch, cornmeal and yellow turmeric. Of albumin there was barely a trace. Prosecution for obtaining money under false pretenses, which is a penitentiary offense, would have followed, but for the fact that the malefactor absconded and the state Food and Dairy Commissioner could not ascertain his whereabouts. This is an instance of the good that can be accomplished in this way.

R. S. M.

Our local board of health is to be congratulated upon the valuable assistance that it is rendering the meat inspectors at the stockyards. The discovery last week of "lumpy-jawed" cattle by the carload shows that "eternal vigilance is the price of health." No punishment is too severe for the scoundrels who are endeavoring to feed us on "actinomycosis." R. S. M.

ITEMS.

The twenty-fifth annual meeting of the Mississippi Valley Medical Association at Chicago, October third to fifth, was one of the most successful in the history of the organization.

A large number of good papers on various subjects were read and discussed, both in the medical and surgical sections, but as usual the surgical section was the center of interest.

The feature which developed the most interest and enthusiasm in the surgical section was appendicitis. A half-day of the session was devoted to the various papers on this subject, and their discussion by a large number of the prominent surgeons present.

Dr. I. N. Love of St. Louis, Mo., said that from the standpoint of the medical man he believed that every case of appendicitis should be turned over to a capable consulting surgeon at once for operation.

Dr. Emory Lamphear of St. Louis, Mo., said that it is his present routine in every laparotomy from whatever cause to bring up the appendix and excise it, diseased or healthy, as a prophylactic against future appendicitis.

Dr. A. J. Ochsner of Chicago, Ill., said that it is his custom to clean out the alimentary canal at the very beginning of the attack and then let the patient alone and trust to nature until adhesion had formed and thoroughly walled off the appendix from the peritoneal cavity, then to open the abscess.

Dr. J. N. Bartholomew of Chicago, Ill., advocated early operation, but if a case must be treated medicinally that the bowels should be cleaned out thoroughly by cathartics and colonic flushings at the very beginning of the attack, and then the patient should be absolutely let alone, trusting to nature.

Dr. H. N. Moyer of Chicago, Ill., and Dr. J. A. Witherspoon of Nashville, Tenn., were both anxious to give nature a chance first, and to call the surgeon only when nature failed.

Dr. A. H. Cordier of Kansas City, Mo., Dr. J. B. Bullitt, Louisville, Ky., Dr. J. H. Carsten, Detroit, Mich., Dr. Hal C. Wyman, Detroit, Mich., were all emphatic advocates of early surgical treatment.

The general consensus of opinion seemed to be for immediate early operation if the patient could be placed under the care of a skilled and trained abdominal surgeon with good surgical surroundings, but if these conditions could not be obtained at once to treat the case expectantly by cleaning out the alimentary canal and then keeping the intestine quiet until the patient either died or a circumscribed abscess formed which could be easily and safely opened by almost anyone.

Rectal surgery claimed the next rank in importance. Dr. J. R. Pennington of Chicago plead to have the general principles of modern surgery applied to operations about the rectum; that cleanliness, hemostasis, drainage and rest were as necessary in op-

erations about the rectum as anywhere else.

Dr. Mathews of Louisville, Ky., and Dr. Thos. C. Walker of Cleveland, Ohio, read and discussed able papers on the subject of rectal surgery.

The meeting was a success as a social as well as a scientific body. The local profession, under the able leadership of Dr. H. N. Moyer, made every effort to entertain the visitors in a manner befitting Chicago. A smoker at the Sherman House Tuesday evening; an open evening at the Masonic Temple Roof Garden Wednesday; a banquet Thursday evening at the Chicago Athletic Club, at which even the southern friends were made happy.

For the ladies, an afternoon reception at the residence of Mrs. Dr. Turck; and a tally-ho ride through the Chicago parks.

At the close of the session, Dr. H. N. Moyer of Chicago was elected president, and Asheville, N. C., was chosen as the rallying point for 1900.

The day following adjournment the visitors who remained were entertained by a series of special clinics at the Chicago Clinical School, lasting from 9 a. m. until 6 p. m.

Prof. J. Homer Coulter demonstrated his operation of dissecting out the tonsil with a galvano-cautery point, Prof. H. N. Moyer, an hour in neurology, Prof. T. A. Davis, operations for ovarian cyst and pyosalpynx, Prof. Charles Davison, gastro-enterostomy with the Murphy button, Prof. D. A. K. Steele, three hours of interesting operations.

Dr. G. Frank Lydston has returned from the East.

For Sale—My property and practice in this growing city of 2,500 people, town still rapidly growing. Terminal division C., R. I. & P. Ry.; also largest shops west of Chicago., I have been here in active practice since beginning of town (seven years) and am desirous to sell on account of failing health. If seeking a location it will pay you to investigate this place.

DR. C. D. FELLOWS,
Valley Junction, Iowa.

Western Surgical and Gynecological Association.

The ninth annual meeting of the Western Surgical and Gynecological Association will be held at Des Moines, Iowa, December 27 and 28, 1899. Surgeons and gynecologists of the great West are cordially invited to affiliate themselves with this association. The secretary will be glad to send application blanks on request. Titles of papers should be sent to the secretary as soon as convenient, but not later than November 20, to insure a place on the program.

H. C. CROWELL, Pres., Kansas City, Mo.

GEO. H. SIMMONS, Sec. and Treas., 61 Market street, Chicago.

INTERNAL MEDICINE.

Under the direction of JEROME H. SALISBURY, A. M., M. D., Professor of Internal Medicine, Chicago Clinical School; Assistant Professor of Medicine and Chemistry, Rush Medical College.

Treatment of Constipation.

G. Berne treats obstinate constipation with massage of the region of the gall-bladder, daily for ten minutes. A few sittings suffice to obtain the first natural passages without medicine. The best time is three hours after the noon meal.

J. Haeckel distinguishes two kinds of constipation, atonic and spasmodica; in the atonic form the food should be rich in cellulose, fruits, leguminous vegetables, etc. It should be treated by a spray upon the abdominal region of the thickness of the little finger, and having a pressure of two atmospheres, directed upon the epigastrium, then following the course of the colon. The temperature of the water may be varied during the continuance of the douche. The douche is then applied to the chest and back, the spray being broken up by a special apparatus, disposed in the form of a fan.

In the second form he directs douches administered in another manner. No strong pressure, no variation of temperature. The water may have a pressure of two and one-half kilos. It passes through the rose of a watering pot, pierced with narrow openings, so that it is thrown upon the belly in the form of fine rain. The temperature of the water must be maintained at 35 to 40 degrees C. The duration of the douche is from two to two and one-half minutes. The jet is directed along the colon, but in such a way that the epigastrium is constantly affected by the water. The anterior and posterior surface of the lower limbs, the chest and the back are then sprayed. After the douche, the belly is lightly rubbed and the limbs vigorously. The patient lies down for five to ten minutes and then walks about for a quarter of an hour.

Experiments by Vaughan and Harley ("British Med. Journal," September 30) on metabolism after removal of the entire large intestine in dogs indicate that the large intestine absorbs about ten per cent of the nitrogen given in the food, but has little action on the absorption of fats or carbohydrates. In dogs in which the large intestine has been removed, the quantity of feces is largely increased and also the quantity and percentage of water. Increased ingestion of fats in such animals tends to diminish the quantity of urine and the nitrogen it contains but increases the specific gravity.

Somatose.—Stevenson and Luff ("Lancet," September 30) conclude as follows: (1) Somatose is a true meat nutrient, possessing restorative and stimulating powers. (2) It is well borne by delicate patients. (3) It improves digestion and causes no gastro-intestinal disturbances. (4) It has a favorable effect on general metabolism. (5) It has no irritating effect on the kidney. It never gives rise to albuminuria, albumosuria, or peptonuria. In those cases in which albuminuria existed prior to the administration of somatose the albumin gradually disappeared from the urine during its administration. Somatose is essentially a mixture of albumoses.

Influence of Remedies on the Secretion of the Gastric Juice.—F. Riegel ("Zeitschrift fur klinische Medizin B.," 37 H. 5 and 6, 1899). Authors differ in regard to the action of remedies on this function, some attributing to a remedy the property of increasing secretion, while others give the same remedy the power of hindering this function. In consequence of this uncertainty, many recent authors neglect the question, while giving remedies for affecting the motor activity and for increasing or decreasing hunger.

From a review of the literature, it must be concluded that so far there is no remedy in regard to which all observers agree, either that it increases or diminishes the secretion of gastric juice. The researches hitherto undertaken in man have been subject to many sources of error. Similarly operations upon animals with the ordinary gastric fistula are inconclusive, because the gastric juice is mixed with the food ad-

ministered, and neither its amount nor its original acidity can be determined.

Riegel operated upon dogs in which a portion of the gastric mucous membrane had been separated from the major portion of the stomach in such a way that it retains its vascular and nervous connections, and yet forms a separate pouch into which the food which is placed in the large stomach cannot enter. It is thus possible to collect pure gastric juice secreted at the same time and under the same nervous influences as that produced in the larger stomach. The method is due to Pawlow.

That this method suffices to show the action of medicaments is indicated by a chart showing the secretion under the action of food (one liter of milk) and of the same food with the addition of in the one case 0.01 gm. pilocarpin and in the other 0.0001 atropin. The normal amount of secretion in two hours was 16Cc. Under pilocarpin it rose to 53Cc. Under atropin it fell to 2Cc.

According to the researches of Pawlow and Schamowa, Schneyer and Uschakoff the secretion of gastric juice is evoked by a stimulus conveyed through the vagus. As atropin has the power of paralyzing the vagus, its action on the secretion of gastric juice is easily explained. In numerous trials, atropin uniformly reduced the quantity of the secretion. Atropin not only lessened quantity of the secretion, but markedly reduced its acidity. Pilocarpin increases the quantity of the secretion, sometimes fivefold, but exercises little influence upon acidity. Its action is accompanied by a tendency to hemorrhage, indicating great congestion of the gastric mucosa.

Experiments with atropin on man gave results agreeing entirely with the results of experiments on animals. Atropin reduced the acidity of the gastric juice to such an extent that in some cases hydrochloric acid was entirely or almost entirely absent. The quantity of the secretion could not be determined from the remains of a test-meal. In order to obtain evidence on this point experiments were made in which the food was chewed but not swallowed. The contents of the stomach were then removed, and it was found that the quantity, as well as the acidity, was markedly reduced. The experiments with pilocarpin agreed with those upon animals. An increased secretion containing hydrochloric acid and having the power of digesting albumin was produced.

For practical purposes the power of atropin to decrease the secretion will doubtless prove more serviceable than that of pilocarpin to increase it, for the action of the latter is accompanied by an inconvenient and many times undesirable action on the salivary and sweat glands. The author promises further researches on other medicaments.

Diagnosis of the Form and Position of the Stomach.

Rosenfeld ("Zeitschrift fur klinische Medizin B.," 37 H. 1 and 2) finds that the form and position of the stomach are different from those described by Luschka and His, who delineated the stomach as lying almost horizontally across the abdomen, the pylorus being near the umbilicus, but to the right. Rosenfeld finds that the lesser curvature passes from near the median line at the cardia, downward and slightly to the left until it reaches the level of the pylorus, when it makes a curve or angle to the right and terminates in the pylorus to the right of the median line. The greater curvature or angle pursues a more curved course, and passes horizontally into the pylorus without the formation of a fundus minor, which has been frequently described. Normally the greater curvature is covered by the ribs. The deflection of the lesser curvature to the left and its relation to the pylorus serve to explain the frequency of ulcer and tumor in this location. It is evident that food passes first over the lesser curvature on entering the stomach, and thus the lesser curvature is exposed to greater risk of injury, either mechanical or thermal. The pylorus also is almost immediately reached by the food and becomes subject to like irritation. Dilatation of the stomach is of two chief types, vertical and horizontal. In the vertical, without change in the direction of the lesser curvature, the fundus of the organ may sink to the level of the crest of the ileum or even fill up the pelvic cavity. The pylorus in such case may sink along with the fundus or may retain nearly its normal position. The normal capacity of the stomach is at most one and a half liters (three pints), but in these cases it is some times enormously increased. The horizontal dilatation causes the organ to assume some-

thing of the shape of a ham. The greater curvature becomes more horizontal and is found below the level of the ribs. The lesser curvature takes the direction depicted by Luschka and His. The pylorus is found more to the right and the stomach overlies the liver and pushes it to the right and downward. In these cases a distinct fundus minor is found at the entrance to the pylorus.

A dilatation of the fundus may occur, leaving the pylorus and lesser curvature in their normal position and course. In this case the greater curvature is found closely applied to the arch of the diaphragm and the stomach is still covered by the ribs, although it is increased in capacity.

The condition known as gastroptosis presents itself as an enlargement in which the pylorus is lowest and the form of the stomach is practically unaltered. In these cases the organ will be found to have a capacity greater than normal, and the upper part of the greater curvature will be found in its normal position in contact with the arch of the diaphragm.

Rosenfeld calls attention to the uncertain position of the umbilicus, which may be on a level with the lower ribs or below the level of the anterior spinous processes of the ilium. It becomes therefore a very inexact statement to describe the location of the pylorus by its distance from the umbilicus. Instead, Rosenfeld would substitute as fixed lines, one joining the costocartilaginous articulations of the tenth ribs, which he calls the bicostal line, another joining the middle points of the iliac crests he calls the bicristailiac line, lastly, a line joining the anterior superior spines of the ilium, which he calls the bispinal line.

Referring to methods of diagnosis, he criticises the method of filling the stomach with air as not giving accurate results on account of the distensibility of the normal stomach. The stomach may be capable of distension so as to exceed the normal limits and yet not be dilated in the pathological sense. The stomach may also expand under the arch of the diaphragm and not appear below the ribs so that an actual dilatation of the fundus would not be recognized.

The introduction of the sound gives uncertain results because in the upright position it cannot well be felt if it reaches the lowest part of the stomach and in the recumbent posture, if it can be felt at all, it certainly does not reach the lowest part of the organ. Diagnosis by percussion requires the greatest delicacy of touch and hearing, and then is often uncertain. Transillumination is unreliable because the light may shine through the thin walls of the colon, as well as the stomach. He gives the highest value to the x-ray diagnosis, after introducing a sound, containing a spiral spring. By this means the stomach can be outlined, the liver, spleen, colon, pancreas, food, tumors, etc., can be distinctly seen.

Primary Lesion of Tuberculosis.

Weaver ("N. Y. Medical Journal," October 7, 1899) concludes as follows:

1. That the infection comes through food or moist germs inhaled and swallowed, and possibly through infection of the tonsillar tissue.

2. In the great majority of cases the infection occurs in the posterior portion of the lung apex, that being the most vulnerable point, as a direct result of the discharge of infected chyle into the vena cava.

3. Should that portion of the lung apex be healthy and not a suitable nidus for the germs, they may pass on with the blood current to find lodgment in some other area, unless the blood has exerted its bactericidal power over them, when they may be removed by the action of the phagocytes. (Klebs.)

The theory of Cornet has not produced the results expected in the prophylaxis of tuberculosis. Then why consider such a rare possibility (infection by the inhalation of dry germs in the form of fine dust), when we know that there is a stream of bacilli flowing with the blood current through the lacteals (germs swallowed with food or sputum or nasal discharges), capable of producing the infection in the lungs?

SURGERY.

Under the direction of FRANCIS R. SHERWOOD, M. D., Professor of Surgery, Chicago Clinical School; Professor of Anatomy, College of Physicians and Surgeons (Medical Department University of Illinois).

The Prevention of Sickness After Anesthetics.

J. Blumfeld ("Journal of American Medical Association," October 14, 1899) says:

The after-sickness following operation when anesthetics are used depends largely on the idiosyncrasy of the patient, the secretion of mucus and the length of operation. He says: "In conclusion it may be said that some of the chief points to be attended to in the avoidance of after-sickness are: 1. Use as little of the anesthetic as possible consistent with perfect anesthesia. 2. Wash out the stomach at the close of operation, when much mucus has been swallowed. 3. In long operations substitute chloroform for ether after three-quarters of an hour. 4. Move the patient about as little as possible during and after operation. 5. Place him on his right side in bed with head only slightly raised. 6. Give nothing but hot thin liquids in small quantity for at least eight hours after. 7. Do not alter the temperature of the room for some hours. With proper attention to these points one-third of the patients operated on will be free from after-sickness, and for short operations the proportion will be much higher still. In fact, after all administrations up to twenty minutes, or not much longer, sickness will be found to be the exception."

Some Observations on the Surgery of the Gall Bladder, Bile Duct or Both.

Wm. J. Mayo ("Annals Surgery," October, 1899) says:

Sixty-three cases recovered from operation, one case died.

Four cases required secondary operations, two for the removal of stones overlooked, one for biliary fistula, one for cyst caused by stricture in cystic duct. Three cases had some trouble due to poor drainage in cystic duct. In two cases wounds were reopened by retained secretions. In eight cases cholecystotomy was performed for the relief of infection of gall bladder, ducts, or both. Two cases were operated upon for infective cholangeitis; both of these cases recovered. No stones were found, but the gall bladder was shrunken.

Choledochotomy was performed eleven times for the removal of stones in the common duct. All recovered. Cholocystenterostomy was performed for stricture of the common duct; Murphy's button was used; perfect recovery. The patient had been jaundiced for eight months previous to the operation.

Exploratory operations were performed ten times in which no evidence of disease of the gall bladder or ducts were found. The results of operations upon the gall tracts for malignant trouble show that in the majority of cases operation is contra-indicated.

After Treatment of Laparotomies.

The "Journal of the American Medical Association," August 19, 1899.

Dr. Emil Ries says: After intra-abdominal work by the vaginal route, with closure of the peritoneum and vagina by sutures, patients can be fed like perfectly healthy persons and be allowed to get up in twenty-four to forty-eight hours and to leave the hospital in four to six days after the operation. He does not recognize the necessity of producing early bowel movement. He advises giving an enema on the second day or waiting for natural evacuation of the bowels. He omits the complete emptying of the bowels prior to operation. When ventral or lumbar incisions are made, large or small, the patients are allowed to move about in bed at will immediately after the operation and may sit up on the third day. Some are kept in bed till the superficial sutures are removed, on the sixth or eighth day. They are discharged from the hospital about twelve days after operation. In operations on the intestines with sutures or mechanical appliances, the patients are allowed solid food after the first bowel movement, simply cautioning them to chew

the food thoroughly. Binders are not worn, tonics not given, and strychnia is omitted. In over one hundred cases of vaginal celiotomy in four years he has not had one death or a case of ileus following operation. He claims that the muscular tonicity consequent on the above treatment tends to prevent hernia by making stronger walls and preventing muscular atrophy.

Strangulated nguina Hernia Through Mesenteric Hole.

Louis J. Mitchell ("Annals Surgery," October, 1899) says:

In the fetus the ileo-colic branch of the superior mesenteric artery circumscribes by anastomosis with the last intestinal arteries and area on mesentery, oval in shape. It has no fat or visible blood vessels or mesenteric glands, therefore, by atrophy of the peritoneum an oval hole is formed. I have found these holes while coroner's physician three times in 1,000 cases.

First case: Male child, 10 years of age, fell down a flight of stairs, apparently causing no injury. The following day peritonitis developed and the following, death. On holding a post-mortem I found one of the before described holes or openings, one and one-half inches in diameter.

The second case was a man of 24 with an opening 1x¾ inches.

The third case was a woman of 45 with an elliptical opening 1x1⅞ inches.

Penetrating Wounds of the Chest.

J. B. Murfree, in "Medicine," October, 1899, says that penetrating wounds of the chest are an important class of injuries, not only on account of their frequency and their serious nature, but on account of the character and extent of the tissues and organs involved, as well as the great damage done to the individual. Not infrequently they are rapidly fatal. While this is true, they are possessed of great and seemingly wonderful resisting and recuperating powers, sustaining great destruction of tissue, and yet maintaining their vitality as a whole. They are divided into penetrating and non-penetrating wounds. Non-penetrating are regarded the same as wounds of the soft parts in other localities and are not considered. In discussing the penetrating wounds he says the danger is in proportion to the vitality of the parts injured, the extent of the wound and the character of the substance inflicting the wound.

Wounds of the heart and large blood vessels are much more dangerous than wounds of the lungs, while wounds of the lungs are more dangerous than wounds of the pleura and small blood vessels. Any wound that penetrates into the thoracic cavity constitutes a serious wound that may disable the patient and cause death.

Wounds penetrating the chest are dangerous from hemorrhage; from the admission of air into the pleural cavity, producing collapse of the lungs; emphysema; empyema; septicemia or exhaustion. Sudden death follows injury of the large vessels. Injury of the small may endanger life from protracted bleeding. The sudden admission of atmospheric air may produce collapse of the lung and death from suffocation. Empyemia may result from infection of the blood in the pleural cavity with streptococcus pyogenus followed by systemic absorption.

Emphysema may result from the air gaining admission through the rent into the cellular tissue, not only of the chest, but of the greater part of the body.

The injury may produce a pneumonitis; if a large wound, may give rise to hernia of the lung.

Symptoms of penetrating wounds of the chest vary greatly in their duration and intensity. Shock generally decided; pulse rapid; heart action feeble; surface of body pale, cold and bathed in perspiration. Respiration often shallow, jerking and irregular. Noise produced by air passing in and out of wound. It is important to recognize the difference between penetrating and non-penetrating. In penetrating escape of blood mingled with air. When the lung is injured, in addition to the escape of air through the wound, blood is expectorated. Collection of blood forming a hemothorax. Dryness and irritation of the throat, causing constant desire to cough.

Diagnosis is then discussed. Treatment should be governed by the general rules of surgery. Arrest hemorrhage, relieve shock, remove foreign substances from the wound. Thoroughly cleanse it and the adjacent tissue. Hermetically seal the entrance and exit under rigid asepsis. Immobilize the chest wall.

Internal remedies: Opium. Do not probe wound. Use a brisk cathartic after two days.

GYNECOLOGY.

UNDER THE DIRECTION OF

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Gynecology.

Dr. E. Pierce Mallet, American Gynecological and Obstetrical Journal for July, says, in summarizing his cases, that some of the effects of parotid gland extract as he has observed them are:

In briefly summarizing these cases I will not attempt any physiological explanation of the action of the parotid gland, but will simply state some of its effects as I have observed them.

1. It has seemed to relieve the pains of dysmenorrhea in all cases, without regard to alleged causes and present conditions, to a greater extent than any of the numerous so-called uterine sedatives which I have been able to obtain.

2. It relieves those dull, aching pains referred to the back and ovarian regions, usually designated by those familiar, though vague and unsatisfying terms "reflex pains, neuroses, ovarian neuralgia," etc.

3. Menstruation when deranged becomes more regular as to periodicity and less in amount and shorter in duration.

4. During its exhibition pelvic exudate seem to soften and become absorbed more rapidly under abdomino-pelvic massage.

5. The general health, strength, appetite and spirits seem also to improve under its use, and those dull headaches, which constitute such a persistent and annoying symptom in these cases, is almost invariably relieved and in some disappears entirely.

6. The only counter-indication that I have thus far met with in its use has been in cases of the artificial climateric, in which cases the flashes of heat and cold were distinctly made more frequent and severe.

Taken from "Journal of the American Medical Association," September. Article by H. A. Tomlinson, M. D., and Mary E. Bassett, M. D., of St. Peter's Hospital, St. Peter, Minn., on association of pelvic diseases in insanity in women and the influence of treatment of the local disease upon the mental condition.

The following conclusions seem to me to be warranted by our study of the data furnished by our examination and treatment of the women committed to this hospital:

Mental disorder and pelvic disease, while quite common among insane women, in the majority of cases bear no apparent relation to the insanity; nor is the intensity of the mental disturbance in proportion to the gravity of the physical disease.

In cases where the insanity has existed for more than a year, or the patient has a defective nervous organization, treatment of the disease of the generative organs is practically without effect on the insanity, and in such cases operative interference resulting in the establishment of an artificial menopaus almost invariably hastens the onset of dementia.

Operative interference is called for in the treatment of pelvic disease among the insane for the same reasons that would determine the necessity for such treatment among the sane.

In order to determine whether or not treatment of the disease of the generative organs will have a curative effect on the insanity, it is important to know the family and personal history of the patient with regard to the presence or absence of evidence of unstable or defective organization, the length of time the insanity and disease of the generative organs have existed, and to what extent the general health of the patient is affected by the pelvic disease independently of the insanity.

Picqué and Manclaere in the Annales de Gynécologie et d'Obstétrique give the following indications and contraindications for total abdominal hysterectomy in cancer uteri:

The first indication is based on the age

of the neoplasm. All authors affirm that total abdominal hysterectomy, supplemented by the removal of all the infected lymphatic glands, will give the best results in incipient cancer, be the growth in the cervix or in the body of the uterus. It is evident that the removal of the infected glands is the most important step of the operation; it is the "corner-stone" of the operation; it is upon it that the partisans of abdominal hysterectomy base their assertion that abdominal hysterectomy is the only radical operation for cancer uteri, if only the operation is done early enough and done completely.

By the vaginal route, this pelvic dissection is laborious, delicate, dangerous and illusory. The abdominal route allows the isolation of the ureters from the peri-uterine neoplastic tissues.

The second indication to consider is the site of the neoplasm. It appears to be demonstrated that cancer of the body of the uterus has a slower evolution than cancer of the cervix. Lymphatic involvement is shown. Rouffart, Jacobs and many other authors claim that the selection of the abdominal route is indicated in early cancer of the cervix, in cancer of the corpus, when the uterus is not fixed, and when there is no involvement of the peri-uterine cellular tissue, nor of the vaginal lymphatics and culs-de-sac.

The volume and mobility of the uterus, as well as the vaginal dimensions, must be considered.

Von Rosthorn (Prague) recommends the selection of the abdominal route when the uterus is voluminous and only slightly mobile. Kustner (Breslau) advises the use of the same route when the cervix is friable and when there exist peritoneal adhesions. When the vaginal route is selected, inoculation of the vaginal walls is more frequent. When the vagina is small, when the cervix is not easily accessible, when there is a prolapse of the cancerous uterus, the abdominal route must be selected.

When, after having opened the abdomen, it is discovered that the uterus is adherent on all sides, especially to the rectum and to the bladder, that the broad ligaments are infiltrated with cancerous nodules easily palpable, when along the iliac arteries and veins can be felt indurated nodules, it is wise to abandon the operation and close the abdomen.

A case of vulvar hematoma (Wratch, 1899, No. 24).—Young woman, 20 years of age, primipara; labor and delivery normal. A half-hour after delivery, patient felt an acute pain in the region of the perineum and of the anus. Examination revealed a violaceous tumor the size of a hen's egg on the left vulvar lip. The size of the tumor could be seen increasing, and the condition of the patient was getting worse; the pulse was small, filiform, patient was in a syncopal state. The tumor acquired the volume of a fetal head, than ceased augmenting in size. After having re-animated the patient it was seen that the tumor occupied the whole vagina, distending its culs-de-sac and displacing the uterus upward. The perineum was distended and tumefied, and the anus pushed to the right.

Seven days later, this collection opened spontaneously into the vagina.

H. Delageniére (Le Mans) says that the shortening of the broad or of the round ligaments cannot of itself cure retroversion. These operations must be looked upon as auxiliary operations, adjuvants of other operations such as salphingo-sophorectomy, colpo-perineorrhaphy. The first thing to determine is whether the retroversion is reducible or irreducible. If reducible, the operation will be extra-peritoneal; if irreducible, it will be intra-peritoneal.

In the extra-peritoneal operation, attention will be directed to the uterus, to the vagina and to the round ligaments. The uterus will be curetted; if necessary, amputation of the cervix will be performed and if the volume of the uterus is much augmented and there are present fibrous nodules, the uterine arteries are to be ligated. According to the indications present, a perineorrhaphy or a colpo-perineorrhaphy will be performed. The operation will be terminated by Alexander's operation, that is, an extra-peritoneal shortening of the round ligaments. In the intra-peritoneal operation we will first separate the adhesions that keep the uterus in faulty position, then remedy any lesions of the adnexæ, and finally correct the retroversion by shortening the broad or the round ligaments. The round ligaments will be shortened, when there is a simple retrodeviation without beginning prolapsus. When, however, the uterus shows a tendency to sink in the pelvis, the broad ligaments will be shortened. Intra-

abdominal operations do not prevent operative procedures on the perineum.

Th author reports 33 cases with 33 recoveries, in which he has observed the above cited rules.

During December, 1898, L. V. Hopeapendler reports a case of vaginal lesions following coitus. The patient, a young woman of twenty-three years of age, was admitted to the hospital, suffering from a profuse hemorrhage from the genital organs. The patient said the hemorrhage followed a coitus, during which she had experienced severe vaginal pains. At the time of examination, pulse was rapid. There was no fever. The external genitalia were intact. On the anterior vaginal wall, there was a bleeding linear tear, extending up to the anterior cul-de-sac and curving around the vaginal portion of the cervix as far as the right and posterior cul-de-sacs. The vagina was washed with an antiseptic solution, and the tear united by 11 silk sutures. The vagina was then tamponed with iodoform gauze. An ice-bag was applied to the abdomen.

On the seventh day, union was complete, healing having taken place by first intention. Patient was discharged completely cured. The author thinks that these tears were due on one part to the violence of the coitus, on the other to structural anomalies of the vagina as small size weak resistance of the vaginal walls.

Vanverts in the Echo médicial du Nord, January, 1899, says that curettement practice for placental retention, complete or incomplete, complicated or not by infection, is an efficacious and benign operation. Aseptic precautions must be observed. It is well, as before all intra-uterine maneuvers, to carefully disinfect the vulva and the vagina, and also to irrigate the uterine cavity with a weak antiseptic solution. None of the uterine surface must escape the curette. The curetting is to be followed by a copious irrigation of the uterine cavity, and in infectious conditions it is well to mop the walls of the uterine cavity with a tampon dipped in tr. iodine or in one to three solution of glycerin in creosote.

OPHTHALMOLOGY.

Under the direction of WILLIS O. NANCE, M. D., Professor of Ophthalmology, Chicago Clinical School; Assistant Surgeon, Illinois Charitable Eye and Ear Infirmary.

The Eye Complications of Acute Specific Diseases.

Percy Flemming of London ("British Medical Journal," April, '99) mentions the following acute specific fevers, and the more common ocular complications met with:

Measles—Acute simple conjunctivitis, with blepharitis, phlyctenular ulcer.

Whooping Cough — Sub-conjunctival ecchymosis.

Parotitis—Edema of lids and conjunctiva.

Scarlet Fever—Chronic muco-purulent conjunctivitis as a sequela, albuminuric retinitis occurring late.

Typhoid Fever—Eye complications not common.

Diphtheria—Diptheritic conjunctivitis, paralysis of accommodation and also of some of the extrinsic muscles.

Influenza—Acute simple conjunctivitis, herpetic corneal ulcer, Fuch's keratitis.

Variola—Edema of lids, purulent conjunctivitis, keratitis.

Vaccination—Edema, conjunctivitis and keratitis from direct inoculation.

Varicella—Mild conjunctivitis.

Erysipelas—Edema of lids, ulcer of cornea, "orbital cellulitis."

He calls particular attention to the importance of the early treatment of these complications as a preventative of serious sequelæ.

Euthalmin.

an active mydriatic, brought to notice by B. Treutler, in an article in the "Monat. für Augenh.," September, '97, has received the indorsement of Knapp of New York ("Arch. of Opth.," May, '99). He concludes, after employing it constantly in his practice for a period of nine months, that it is of value "in routine use to dilate the

pupil in ophthalmoscopy," and "as a substitute for atropia in cases of intolerance of that drug." One instillation of a 10 per cent solution brings about a maximum dilatation of the pupil in about thirty minutes, and in from five to ten hours all mydriatic effect has disappeared. The accommodation is little interfered with; there are no unpleasant side-effects attending its use and it does not irritate the conjunctiva or skin. Its cycoplegic effects are not to be compared with those of atropia, and, in this respect it is "even more unreliable than homatropin."

Sequelæ of La Grippe in the Eye.

Ramos ("Gaz. Med. de Mex.," May, '99) discusses such affections as somewhat different from the usual foci of the disease. The three ordinary characters of grip invasion are: (1) cranial, (2) thoracic, (3) abdominal. Apart from these, the grip poison may invade the ocular tissues, when Ramos notices, (1) edema of the lids, due neither to kidney or heart lesion; (2) corneal ulcer; (3) edema of the conjunctiva, with great pain. All of these symptoms (sic!) seemed to demand direct local treatment, but all were cured with anti-grippal remedies.—Ann. of Opth.

The Absorption of Cataract.

Kalish ("Med. Rec.," October 14, '99) publishes the third of a series of papers on the "Absorption of Uncomplicated Immature Cataract by Conjoined Manipulation and Instillation," the two former ones appearing in 1890. He reports 130 cataractous eyes treated prior to January 1, 1894 (mentioning those for the purpose of demonstrating the permanency of the results obtained), and in twelve instances only did the treatment avail nothing. He says: "I am fully convinced, by personal experience, that the treatment of immature cataract by conjoined manipulation and instillation will produce a permanent and successful result, despite interested and farcical criticism to the contrary; but that it will modify every case I am not sanguine enough to expect until all humanity is cast from a single mold." He submits plates as an exhibit of ophthalmoscopic appearances present in a number of cases, and summarizes the subject as follows: (1) Immature cataract is due to local conditions dependent upon general systemic causes. (2) Senility is rarely a direct, but may be a predisposing, cause. (3) Fluids containing perverted aliments resulting from defective metabolism supplied to the lens through its nutritive stream may be considered an exciting cause. (4) Deficient blood supply, thus reducing the quantity furnished, may be considered a contributing cause. He states the following conclusions: (1) Immature cataract may be regarded as a largely preventable disease. (2) It may, by properly directed treatment, local and constitutional, be prevented, arrested, retarded or cured. (3) The circulation of the blood must be regulated. (4) The faulty digestion may be rectified. (5) Constant supervision of the eye must be maintained by a competent ophthalmologist, that the eye-strain be relieved, and all changes in refraction be promptly remedied. (6) Treatment by conjoined manipulation and instillation should be instituted at the earliest possible moment. (7) Finally, if local and constitutional treatment should not provoke a favorable issue they will establish a more nearly normal state of the ocular tissues, and if an operation be found necessary, this improved condition of the ocular structures will ensure a large degree of success.

Beta-Eucain vs. Cocain.

Poole of Detroit (Miss. Vall. Med. Asso., October, '99) discusses the merits of the two anesthetics as applied to eye, ear, nose and throat practice, and concludes that Eucain (1) is decidedly less toxic than cocain, therefore, superior to it; (2) its aqueous solutions keep well and can be sterilized by boiling without destroying the activity of the drug; (3) it produces anesthesia equally well with, and sometimes better than, cocain; (4) it causes no mydriasis and no disturbance of accommodation, which is an advantage in some cases; (5) it is less dangerous to the cornea than cocain, inasmuch as it does not cause a desquamation of the superficial epithelium.

NOSE, THROAT AND EAR.

Under the direction of J. HOMER COULTER, Ph. D., M. D.; Professor Laryngology, Rhinology and Otology, Chicago Clinical School; Professor of Rhinology and Laryngology, Harvey Medical College.

In a recent number of the Brooklyn Medical Journal, Dr. Wright attempts to establish the pathology of the nasal septum as a most important factor in various other pathological conditions more general in character. That this is one of the most fertile fields for serious reflex conditions there will be no question, but at the same time can it not be quite possible that we are carrying this matter of reflexes to a dangerous point; dangerous both because it may warp or cloud our better judgment, and dangerous because from it we fail to attain the largest results for the patient?

Prominent neurologists have in the past few months been protesting loudly against so indiscriminate a use of the term "reflex." Others have begged that its use and reference be expunged from our pathological lexicons, and, indeed, not without good reason do they so protest. Simply because in many cases of adenoids or extensive spurs or deviations we get such pleasing results by operative procedures, is not a convincing argument that all pathologies will result in a reflex disturbance, nor that the perfect cure of these conditions by surgery or otherwise will always relieve the reflex disturbance that may exist.

* * *

Dr. Libby in New York Medical News advises the use of acetanilid in middle ear suppurations. I regret that the author has not made a more extensive study of the drug and its relation to this condition than would appear from a perusal of his article. To my mind he fails to point out a single point of advantage to be gained by the use of this drug over the many others in such general use by aurists generally. The author admits that there is danger of the powder "caking," which is, indeed, a most serious objection to its use; then, too, its therapeutic value in such cases is very much a matter of question. There are many more desirable and much less dangerous antiseptics, and a number of antiseptic powders which are certainly preferable.

Deductions made from a study of only ten cases are untrustworthy in a condition of such importance, even if they were unanimous in their indications. It surely does not furnish us a sufficient criterion to judge of the merits of any new drug. In a matter which has been of such universal interest and study on the part of the most learned aurists for the past twenty years, and a subject which has furnished the basis of many of their most heated discussions during that time, it can hardly be presumed that an experience of ten cases will afford indubitable proof of the value of any one drug.

It has been too frequent a custom among younger contributors to fly into print with some startling results obtained from the use of some drug or method of treatment in a limited number of cases. Such reports do harm, not to the specialist whose experience has taught him conservatism in such cases, but to the general practitioner who is often compelled to treat these cases as best he can.

* * *

While we are filing objections to the methods of some of our confreres there are two other points which we cannot overlook. One is the too indiscriminate use of the cautery in the nose. True, and fortunately so, this point is not so important as it was a few years since, but there are still alive and practicing those who seem to forget to differentiate between a turgescence and an hypertrophy, and at the same time to overlook the importance of the mucous-producing function of the nose and by their too generous use of the cautery decrease this functional activity which nature is making every effort to maintain or increase. Firstly and positively determine whether or not there is present a hypersection or an abnormal dryness, and let the character and

amount of your cauterization depend upon such determination.

The other point which we wish to call to your minds is brief, but practical. Remember the diseased portion of a pathological tonsil is not on the throat surface of the gland, but quite deeply embedded within the gland structure itself. Remember also that you would in no mild terms condemn the surgeon who would remove a portion of a foot or hand which was gangrenous and leave attached to the patient as much of the diseased tissue as he took away; so you in removing a diseased tonsil should exercise the same surgical skill and surgical common sense, and remove the entire gland, not amputate a small outside portion in the unscientific, unsurgical and vain hope that it may do the patient good for a time.

PROCTOLOGY.

Under the direction of J. RAWSON PENNINGTON, M. D., Professor of Rectal Diseases, Chicago Clinical School; Surgeon-in-Chief, Good Samaritan Hospital for Fistula and Other Diseases of the Rectum; Consulting Surgeon, Mary Thompson Hospital for Women and Children.

Mississippi Valley Medical Association.

Abstract of Papers and Discussions Pertaining to Proctology, of the Twenty-fifth Annual Meeting, held at Chicago, October 3-6, 1899.

Hemorrhoidal Complications.—Dr. John L. Jelks, Memphis, Tenn., read a paper in which he dealt with some of the complications met with before and after hemorrhoidal operations. He reported a number of instructive and interesting cases. Sometimes, in dealing with simple rectal trouble, the surgeon encounters serious disease of the uterus and its adenexa. Without the relief of both or all conditions the patient will feel that the operation was a failure, especially if hysterical.

Syphilis and gonorrhea may be and often are the cause of rectal trouble. Pregnancy, cystitis and urethral stricture may become serious complications or may be the cause of their development. Hemorrhage may become a very grave post operative complication.

Dr. J. M. Mathews, Louisville, Ky., believes that no intelligent surgeon to-day uses carbolic acid for the treatment of internal hemorrhoids. He uses the ligature but says the clamp and cautery may be used as successfully. The former method is not so liable to be followed by the complications cited by the essayist. He operates upon hemorrhoids regardless of such complications as pregnancy, a displaced uterus, etc.

Dr. J. R. Pennington, Chicago, stated that there need be no fears about hemorrhage if the operation was properly done and the wound efficiently dressed thereafter. He disagrees with essayist that the use of the tampon is a source of infection. He claims that the tampon, when properly applied, is one of the best possible protections against hemorrhage and infection and is one of the best dressings that can be applied. It also lessens pain.

Dr. C. L. Hall, Kansas City, Mo., has never been able to devise a tampon which did not prove to be a source of great pain to the patient.

Dr. V. J. Hawkins, St. Paul, Minn., said the ligature caused great pain, even when properly applied. Dr. S. B. Taylor, Columbus, Ohio, agreed with Dr. Mathews that pregnancy should not contraindicate the removal of hemorrhoids.

Dr. H. O. Walker, Detroit, Mich., believes that the day of the ligature has passed.

Dr. T. C. Martin, Cleveland, Ohio, concurred in the remarks by Dr. Walker that the ligature should be abolished.

Dr. Jelks, in closing, spoke of the value of the tubular rectal speculum devised by Dr. Pennington. He doubts the efficiency of a rectal tampon to control hemorrhage after a rectal operation. He advocates dilating the sphincter and says when he fails to do so the patient suffers more or less pain.

Modern Surgical Treatment of Hemor-

rhoids.—Dr. G. M. Blech of Chicago read a paper upon this subject. He believes that germ infection is the main etiologic factor and cited his own observations in support of it. He formerly used the ecraseur, but now he throws a temporary ligature around the base, cuts off the tumor and then sews the wound in the direction of the axis of the rectum with interrupted sutures.

Dr. F. F. Ryan, Georgetown, Ky., uses the clamp and cautery and the ligature.

Dr. Jelks, Memphis, said there was no more pain after the clamp and cautery than the ligature. He rarely observes hemorrhage following the use of the ligature.

Dr. Blech, in closing, agreed with Dr. Jelks, as to the painlessness of the ligature. But had seen very severe pain follow the clamp and cautery operation.

Intolerant Ulceration of the Rectum.—Dr. S. B. Taylor, Columbus, Ohio, read a paper upon this subject. He reviewed at considerable length the surgical anatomy of the anal portion of the rectum. Physicians are often inclined to discredit the severity of the pain of intolerant ulceration, especially in the early stages. The extreme pain makes its appearance with the unhealthy granulations. Apart from the pain there is often annoying and sometimes dangerous hemorrhage, especially if the ulcer be located high. The usual seat of the ulcer is at the posterior commissure and it is here that it is most painful. In treating these cases he injects a 0.1 per cent solution of eucaine or cocaine around the ulcer. A slight incision is then made through the membrane and integument. He then packs with iodoform gauze. Bowels should be kept open with some laxative, perferably some mineral water.

Obstipation and Its Radical Treatment.—Dr. T. C. Martin, Cleveland, Ohio, presented a paper upon this subject. He says that the rectal valve must be considered in studying the mechanisms of defecation. When the muscular elements are relaxed and the gut is either greatly dilated or else is even in lesser measure distended, the valve is passively supported by its fibrous band across the channel to resist the hurried or uncontrolled descent of the feces. If it be the function of the normal rectal valve to beneficently retard the descent of the feces, it is obviously true that it may be the especial property of the valve in certain other than normal conditions to maliciously obstruct the descent of the feces. In time the periods of obstipation are interrupted by diarrhea. The essayist described a method for division of the obstructing valve and presented cases.

Dr. J. R. Pennington, Chicago, said that the function of the rectal valve, apart from beneficently retarding the descent of the feces, was to collect mucus for lubricating the rectum during defecation. He has operated upon a number of rectal valves in cases of so-called obstinate constipation with satisfactory results, patients' bowels moving daily thereafter.

Excision of High Rectal Carcinoma Without Sacral Resection.

Senn ("Philadelphia Medical Journal," September 30, 1899) writes as follows: "Since Lisfranc introduced his operation of excision of the rectum for malignant disease as a legitimate surgical procedure, a number of modifications have been devised by different surgeons for the purpose of perfecting its technique and of enlarging its sphere of application." Then, after briefly referring to the modifications by Kocher, Heineke, Kraske, Bardenheuer and Volkmann, says: "I wish to place myself on record as being absolutely opposed to the sacral route in all operations for the radical removal of the carcinomatous rectum. The sacral route has been selected, of course, only in cases in which the carcinoma involved the upper portion of the rectum, but I am fully convinced by ample experience that radical operations can be performed in all cases justifying such a procedure without this additional trauma and mutilation. I have become satisfied that sacral resection constitutes an important item in determining the high mortality of operations for high rectal carcinoma. I have become equally well convinced that all legitimate and well-grounded indications for the radical removal of high rectal carcinoma can be met and ample room for performing the operation secured by a preliminary excision of the coccyx. In extirpation of the rectum below the peritoneal reflexion, even the removal of the coccyx is superfluous. In excision of the upper portion of the rectum the peritoneal cavity must be freely opened, and in such cases ample space is secured by removal of the coccyx. If excision of the coccyx does not furnish the

necessary space it is much safer to resort to the combined operation than to persist in creating additional space by sacral resection. I hope and trust that at least in this country the Kraske operation will soon become obsolete."

An Original Method for the Cure of Prolapsed Rectum.

Pinckney (French) ("International Journal of Surgery," October, 1899) says:

In the operation proposed the patient is placed in the lithotomy position and a strong Vulsellum forceps fixed in lower end of the protruding mass for fixation. The fore and middle fingers of the left hand are introduced into the bowel sufficiently high to reach the margin of the anus, and through the manipulation of the fingers on the inside of the bowel and the thumb of the same hand on the outside of the bowel, omentum, bladder or intestine, if either be contained in the peritoneal pouch, is detected and dislodged, and the anterior part of the protruding mass near the anal margin is then firmly held between the fingers and thumb.

A Lamblin needle curved upon the flat is introduced at this point, from without, inward, directly through all coats of the protruding and returning cylinder of bowel, and into the interior of the returning intestine, and about three-fourths of an inch below the junction of the external mucous membrane and the integument. The handle of the needle is then lowered so as to make its point penetrate again through all coats of the bowel, the needle entering the mucous membrane on the inside of the returning bowel, about four lines from the original puncture, and its exit is made about the same distance from the original puncture in the external mucous membrane covering the protruding mass. A strong number ten English braided silk ligature is fixed into the eye of the needle and it is withdrawn and the ligature firmly tied.

Other ligatures are introduced in a similar way, each ligature being made to backstitch the other until the entire circumference of the protruding mass has been ligatured firmly and securely. The mass is then removed with sharp scissors about one-half inch below the line of interrupted sutures. The parts are then thoroughly cleansed and the line of union permitted to recede into the anal canal, a small amount of gauze packing having been applied to the cut surface, aseptic gauze and cotton dressings are applied and held in position with a T-bandage.

The dressings should be changed daily and the packing removed on the third or fourth day. A daily douche is then necessary until the ligatured parts have sloughed off.

The bowels are moved on the sixth day with copious enemata. The parts will be found to be completely healed inside of four weeks.

Surgical Treatment of Internal Hemorrhoids.

W. F. Metcalf, "Medical Age," October 10, 1899, says:

The proper surgical treatment of internal hemorrhoids is followed by as great satisfaction as attends any surgical procedure. The effect upon nutrition is usually marked. The permanence of cure depends upon the removal of the cause. If there be permanent obstruction to the rectal circulation they will return. Urethral strictures should be relieved and abnormal conditions of the generative organs and of the sigmoid, and in fact of the whole digestive tract, corrected to insure a satisfactory result. The habits of living may have to be changed—more attention being paid to temperance in eating and drinking.

Hemorrhoids are frequently overlooked as an etiologic factor in disease, and unnecessarily painful methods of treatment are still advocated by some authors.

Then, after giving a brief description of the various operations that are more or less popular, continues as follows:

For about six years I have been treating uncomplicated internal hemorrhoids in the following manner (my statements are based upon more than three hundred operations): Two days before operation a physic should be given—compound cathartic pills or calomel followed by saline. A gentle physic should also be given the day preceding operation, a high enema the night before and an ordinary enema the morning of operation. The patient is fully anesthetized and placed in the dorsal position, the legs being held by a Clover crutch. I prefer the dorsal position because in the majority of cases genito-urinary work is required and should ordinarily be done before the rectum is touched. I prefer to clip off the hair with

the scissors. If the parts are shaved great discomfort attends the outgrowing at a certain stage. The most satisfactory speculum that I have found is known as the Pratt bivalve. It is made in two forms, one of which can be easily passed up into the sigmoid. After adjusting the speculum so that a pile tumor presents between the separated blades, I take hold of the margin of the mucous membrane below the tumor, and with the sharp-pointed scissors curved upon the flat I strip off the membrane covering the vein extremities, which often present the appearance of grapes and should be clipped out with the scissors. If there be but a small quantity of fibrous tissue, this is all that is necessary; the tumor will have disappeared. If there be much fibrous tissue I cut it off smoothly from the surface of the muscle. If a spurting vessel presents I pick it up with a pair of artery forceps and proceed to deal in the same manner with the next tumor. When I have thus passed around the whole circumference I remove the artery forceps. I then dilate the sphincters gently but thoroughly and examine for bleeding points, which, if found, are again picked up with a fine-pointed artery forceps and ligated with fine catgut. This ligation is seldom necessary, as the artery, freed from the fibrous tissue, retracts, and its intima being wounded by the forceps, its lumen is closed. I then clip off the tags of redundant skin about the anus and insert a plug of iodoform gauze or one of wool covered with China silk and dusted with iodoform or aristol. This plug lessens capillary hemorrhage and should be removed as soon as the patient complains of pain. Its removal clears away any small clots which may have formed. Sterile gauze wrung out of water as hot as can be borne is at once pressed firmly against the anus. This is repeated by the nurse every few minutes until the patient is comfortable, when a larger compress can be secured firmly by a T-bandage. This gentle but firm pressure lessens the tendency to spasm.

If the patient be a woman morphine is seldom required; in fact, many will never know that the rectum has been operated upon when it is done in connection with operations upon the genital organs. In men there is usually a greater tendency to spasm of the sphincter muscles and an anodyne often has to be given.

It will be seen that this method leaves strips of mucous membrane longitudinal to the gut and attached to the skin margin and to the membrane above. This makes subsequent stricture impossible, and from these strips of membrane new will develop to cover the entire circumference in about a week. After the first day comfort and cleanliness are insured by letting a stream of a saturated solution of boracic acid play upon the parts, the patient being placed upon the side upon a rubber pad and instructed to strain down slightly. Water need not be thrown within the sphincters. In fact I think it better not to pass anything into the rectum until healing is well nigh complete, unless colic is troublesome, which may and should be relieved by the passage of a sterilized rectal tube. The wounded surfaces usually induce constipation until a stool is forced, which should be done about the fifth day. When this is desired I order three ounces of carbolized sweet oil thrown into the rectum, a Seidlitz powder or citrate of magnesia being given at the same time. Two hours later an enema of a saturated solution of boracic acid will usually clear out the bowel without pain. After healing is completed occasionally there will be found at the anal margin one, two or three irritable tags, which should be removed with the scissors after the injection of a solution of cocain.

Rectal Carcinoma with Subsequent Colotomy.

Ricketts ("Philadelphia Medical Journal," September 23, 1899) writes: There is no reason why epithelioma of the rectum should not be as completely removed as epithelioma of the nose or face, if subjected to the same treatment at the same period of development, unless it be that rectal tissue be more easily encroached upon.

The latency of carcinoma of the rectum is perhaps more responsible for the delay than any other cause. This cause can only be overcome by more frequent and thorough inspection of the rectal mucous membrane, with the most radical means of the removal of any suspicious growth. If friction is the cause of their development it would be natural to suppose that carcinoma would be the most frequently found in cases of constipation, but there is no evidence that such is the case. * * * Excision of the rectum may be done from below, with

or without removal of a portion of the coccyx or sacrum, or it may be done through an incision into the peritoneal cavity over the crest of the ileum.

Non-Malignant Strictures of the Rectum.

Bacon ("Journal American Medical Association") says: For strictures located below the levator ani muscle I produce a mucous fistula posterior to the stricture, so that when finally at a second operation the stricture is severed, this mucous tract lies between the severed ends of the stricture tissue and prevents scar tissue forming to reunite them and re-form the stricture. This is done by taking a blunt-pointed aneurysmal needle threaded with heavy braided silk. The needle is pressed within the anal canal just above the internal sphincter muscle; the point of the needle is forced through the rectal wall back to the coccyx and then carried up posterior to all stricture tissue above the stricture, when the needle is again forced into the rectum. With a blunt hook passed through the stricture the thread is now caught at the eye of the needle and drawn down. The needle is withdrawn and the suture loosely tied, so as to form a seton surrounding the stricture tissue. This thread is left in place three months, during which time the bowel is washed twice daily with boric acid solution. After three months patient is anesthetized, suture removed, grooved director passed along fistulous tract and the tissues over it severed with Paquetin cautery. Says he has successfuly performed the operation in a number of cases.

OBSTETRICS AND PEDIATRICS.

Under the direction of FRANK B. EARLE, M. D., Professor of Obstetrics and Diseases of Children, Chicago Clinical School; Professor of Obstetrics, College of Physicians and Surgeons (Medical Department University of Illinois).

Etiology of Night Terrors.

E. Graham Little, physician to East London Hospital for Children, advances the following deductions from cases examined:

1. Night terrors in the great majority of cases are caused by disorders productive of moderate but prolonged dyspnea.
2. A preponderating number of cases are found in rheumatic subjects with early heart disease.
3. A considerable number of cases are due to obstruction of nasal cavities and fauces.
4. Digestive disturbances do not play the important part in causation that is often assigned to them.
5. The evidence for their casual connection with epilepsy or allied neurosis is scanty.
6. The attacks occur in the subconscious stage of early sleep and are confined to young children under puberty.

Geo. F. Stell, in "Observations of Morbid Anatomy in Tuberculosis in Childhood" ("Pediatrics," October 5, '99), calls attention to the necessity of autopsies rather than to the clinical manifestations for compiling statistics on the morbid conditions of tuberculosis. He says:

"Tuberculosis is by no means easy to diagnose clinically in children; even an extensive tuberculosis may not be recognized as such during life, while many a pulmonary or abdominal condition, thought clinically to be tuberculosis, is found post-mortem to be non-tuberculous, and this with no blame whatever to the clinician, for such error is common enough where the case has been examined carefully during life by several skilled observers."

Gonorrhea is frequently found in the children's clinic of the Clinical School. It has been noted in patients as young as two years old. The clinical diagnosis has in all cases been verified by the microscope. It is an easy matter to confound the leucorrheal discharges as they exist in poorly nourished children with the specific discharge of gonorrhea, unless the miscroscope is used.

Antitoxin.

CHICAGO HEALTH DEPARTMENT.

In a recent bulletin of the Chicago Health Department the following information is given. No more forcible argument in favor of the early administration of antitoxin than the results given below is necessary:

SOME CAUSES OF THE RESULTS OF THE DEPARTMENT ANTITOXIN TREATMENT.

The results obtained, as set forth in the tables, are attributed by the department and its inspectors, primarily and most importantly, to prompt administration of antitoxins—in full strength and quantity—to every case visited that warrants the suspicion of diphtheria.*

*By "full strength and quantity" is meant at least the minimum dose of 2,000 units in five c. c. The results of this strength and bulk have been found more satisfactory than those of more concentrated serums, and much more satisfactory than a lesser number of units. Experience has shown the importance of a large initial dose, ranging from 2,000 to 3,000 units—depending upon the gravity of the symptoms and stage of the disease.

The maxim of the inspectors has come to be: Inject early and enough.

Dr. N. S. Davis, Sr., has recently said, "If an antitoxin or a medicine is known that will promptly destroy the specific toxin of an infectious fever, of course it should be administered as early and efficiently as possible."

To no other agent in medicine does this injunction of the Nestor of medical science in America apply with greater force than to the use of antitoxin in diphtheria.

In the presence of suspicious symptoms no time is lost—even to secure a bacterial diagnosis—before making the injection. The department and its inspectors are as fully convinced of the innocuousness of the serum under all circumstances as they are of its specific antidotal effect upon the toxin of the Klebs-Loeffler bacillus.

Of hardly less importance is held the early bacterial diagnosis of every case of "sore throat" visited. Frequently, where the clinical symptoms do not yet point to diphtheria, the microscope reveals the presence of the bacillus, and then an injection of the antitoxin literally nips the disease in the bud. This practice of the department will account for the large proportion of cases recorded as treated on the first or second days of the disease, while the prompt administration of full doses of the serum accounts equally well for the low death rate among the cases thus early treated.

The record of 4,071 cases shows one death in 355 treated on the first day of the disease—a mortality rate of 0.28 per cent; 17 deaths in 1,018 first treated on the second day—a mortality of 1.67 per cent; 57 deaths in 1,509 treated on the third day—a mortality of 3.77 per cent; 82 deaths in 720 treated on the fourth day—a mortality of 11.39 per cent; and 119 deaths in 469 cases first treated later than the fourth day of the disease—a mortality rate of 25.37 per cent.

In 2,882 cases of diphtheria, treated with full doses of antitoxin on the third day of the disease, or earlier, there were 75 deaths—a mortality rate of 2.6 per cent. In the remaining 1,189 cases first treated on the fourth day or later there were 201 deaths—a mortality rate of 16.9 per cent.

From the Academy of Medicine at Rio Janeiro, Brazil, comes the report of a case of inseparable twins, resembling the celebrated Siamese twins. Exploratory incision for separation developed the fact that the kidneys of each extended into the connecting band and the operation was abandoned.

Embryotomy and Two Cesarean Sections on the Same Patient.

Dr. John C. McCoy of Paterson, N. J., in the "American Journal of Obstetrics" for October, 1899, reports an embryotomy for contracted pelvis, with the following measurements: Distance between the anterior spines of the ilia, 7½ inches; distance between the crests of ilea, 8¾ inches: sacro-pubic, 5 inches; width of pubic arch at articulation, 2¼ inches. Subsequently he did two Cesarean sections upon the same patient. Following the first one there existed a utero-abdominal fistula, through which oozed a portion of the flow coincident with her menstrual epoch. The patient again became pregnant, at which time the flow from the sinus ceased. A second Cesarean section at the end of gestation was performed and the following interesting conditions found:

"1. At the point of the sinus in the abdominal wall the uterus was intimately adherent to the wall of the abdomen over a space of 2½ inches.

"2. On either side of the old scar in the anterior wall of the uterus were bands of adhesions, extending along the entire length of the organ and across its cervical

portion. The adhesions thus formed completely surrounded the field of operation, save at the fundus of the uterus, where they were deficient; uniting, as they did, the anterior surface of the uterus to the parietal peritoneum, they made the operative field practically extra-peritoneal.

"3. The cicatricial tissue about the sinus in the uterus extended over an area 1½ inches in diameter."

Under these conditions the uterus was not drawn out through the abdominal wound, as was done at the preceding operation; neither was an elastic ligature placed about the cervical portion of the organ.

The incision in the uterus was made along the side of the old wound, no trace of the sutures introduced at the time of the previous operation being observed. It was noticed that there was slightly more bleeding from the uterine incision than occurred when the elastic ligature was used.

PATHOLOGY, BACTERIOLOGY AND HYGIENE.

Under the direction of GEORGE H. WEAVER, M. D., Professor of Pathology and Bacteriology, Chicago Clinical School; Assistant Professor of Pathology, Rush Medical College.

On the Role of Insects, Arachnids and Myriapods, as Carriers in the Spread of Bacterial and Parasitic Diseases of Man and Animals.

A Critical and Historical Study, by George H. F. Nuttall, M. D., Ph. D. The Johns Hopkins Hospital Reports, 1899, Vol. VIII, Nos. 1-2:

When we consider the great amount of labor which it has required to collect the material for this recently published report by Dr. Nuttall, we are in a position to appreciate the service which he has done all medical men who are interested in the study of means for the prevention of infectious diseases. We have here a complete summary of the literature upon this important subject, to which Dr. Nuttall's personal investigations have added not a little. We will briefly refer to some of the most interesting and best established facts and their practical bearings.

The agency of flies in the spread of infectious diseases of bacterial origin is probably much greater than we are in the habit of thinking. When they feed upon materials containing anthrax bacilli, plague bacilli, cholera spirilla, typhoid fever bacilli and tubercle bacilli, the bacteria are found in their interior and excreta.

Flies with anthrax bacilli upon their exterior or in their excreta may be the agency which introduces the infection into wounds. Nuttall has made experiments which conclusively prove that flies are able to carry the plague infection and that they die of the disease. The flies may live several days after infection and so have abundant opportunity to gain access to food into which they fall or to deposit their excreta laden with the plague bacilli on or in the food upon which they feed. These facts demonstrate the necessity of protecting bodies dead of plague from flies and destroying them as soon as possible, keeping them in the interval wrapped in antiseptic cloths. The experiments of Uffelmann with flies in cholera are very instructive. He allowed two flies to feed on liquefied gelatin cultures of the cholera spirilla, and after keeping them an hour and two hours, respectively, he made roll cultures with them. One yielded 10,500 and the other 25 colonies of the cholera spirillum. A fly similarly infected was allowed to drink from a dish of sterilized milk. As soon as this occurred he shook the milk, and after keeping it for sixteen hours at 20° C. one drop of the milk produced 100 colonies of the choler spirillum. The same result was obtained in a similar experiment with meat. The author says the evidence as to the rôle of flies in the diffusion of cholera is absolutely convincing.

The experimental evidence of the relation of flies to the spread of typhoid fever is not so complete as in cholera, but enough is known to be very suggestive at least. Celli fed flies with pure cultures of typhoid bacilli and examined their contents and dejecta microscopically and by cultures. Inoculations were also made, proving the

bacilli which passed through flies to be virulent.

These experimental facts upon the relation of flies to cholera and typhoid fever are very important. The practical suggestions which are derived from them may do much in preventing the dissemination of these diseases, in which we have been in the habit of thinking only of water as the distributing agent. The dejecta from persons suffering from such diseases must be so disposed of that flies cannot feed upon them, and all foods and milk must be so protected that they are not able to feed upon or fall into them.

Spillman and Haushalter examined flies and their excreta deposited on the walls and windows of a hospital ward and were able to determine microscopically the presence of large numbers of tubercle bacilli, both in the intestines of the flies and in their excrements. Hofmann found tubercle bacilli in four out of six flies from a room in which a phthisical patient had just died whose sputum had contained many bacilli. Flies fed upon tubercular sputum died in a few days. Within twenty-four hours after being thus fed tubercle bacilli appeared in their excreta. These observations make it important to exclude flies from apartments in which tubercular patients are kept, and to carefuly prevent their feeding upon materials, as sputum, which contain the tubercle bacillus.

The agency of bedbugs as distributers of infectious agents does not seem to be so important as flies. Nuttall found that bedbugs which had bitten mice which had died of anthrax contained anthrax bacilli. They did not, however, transfer the disease to healthy animals in biting them. The bacilli died in their bodies in twenty-four to forty-eight hours if kept at 37° C., and a little later at lower temperature. He concludes that infection with anthrax through the bite of a bedbug does not occur, or is exceptional, but that infection may occur if the bug be crushed and the part scratched. The experiments with the plague bacillus were similar to those with anthrax in their results. Crushing and scratching seem essential in order for infection to occur. What share fleas may have in carrying infections is often still an open question. Nuttall's experiments would indicate that in anthrax fleas do not play much of a rôle, if any, in the spread of the disease. The bacilli rapidly die in their bodies. In the distribution of the plague crushing of the animal and scratching of the surface would produce conditions favorable for infection. The bodies of rats dead of the plague are rapidly devoured by ants, and though they do not die from infection, they may carry the bacilli for a time and so spread the infection. Whether mosquitos may carry infectious bacteria from one animal to others is still undecided, but that it may occur is firmly believed by many. Even if they do not do so in biting, with crushing of the insect and scratching of the surface it is quite possible that such a result may follow. Much has been written regarding the relation of the mosquito to yellow fever, but nothing is proven.

Dervère has shown that pediculi may disseminate impetigo. He removed ten pediculi from a child suffering from impetigo and placed them on a healthy infant, which a few days later developed impetigo. These experiments were repeated many times.

The author then gives a complete summary of the present knowledge regarding the relation between insects, etc., as carriers of diseases due to animal parasites. Much of this reads like a romance. The rôle played by the mosquito in malaria has recently been so much written about that we will not repeat what is now generally known. The measures which may be employed against mosquitos are given. The eucalyptus tree, by its odor, drives them away, as does the castor-oil plant. Kerosene is found very useful. A drop of petroleum placed on a pool ten inches square caused the death of all mosquito larvæ and pupæ it contained within fifteen minutes. A barrel of oil will suffice to treat 96,000 square feet of water surface. It would seem that in kerosene we possess a cheap and efficient agent for combating mosquitos if it be applied early in the season.

The list of literature which is appended to the report fills over thirty pages.

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A Unique Case of Double Inguinal Hernia.

DISSECTION BY W. T. ECKLEY, M. D.,
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CLINICAL HISTORY AND TREATMENT OF INGUINAL HERNIA
BY CHARLES DAVISON, M. D.,
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DISSECTION.

Dissection of a large double inguinal hernia, the clinical history of which is known.

The dissection I wish to present is of rather unusual interest: (1) On account of its known clinical history; (2) its fatal termination; (3) the great amount of alimentary tract in the sac; (4) the well-grown coverings of the hernia; (5) the possibility of demonstrating each covering of the hernia and tracing the same to its parietal parent; (6) the changes in location of other abdominal organs, not directly concerned, as a consequence of the rupture.

Fig. I shows the case before dissection was begun. The hernia on the left is larger; the one on the right is the smaller, but strangulated, and probably caused death of the patient. The penis was completely entombed by the hernial protrusions. A navel-like spot will be seen in the illustration; two inches deeper than this lies the penis, flattened out like a fig.

Dissection:—Fig. II shows skin and superficial fascia turned aside. The superficial circumflex and the superficial epigastric and arteries are much larger than normal. The large globular, glistening hernial mass now shows (1) its strong outer covering, the external spermatic fascia, and (2) a neck or constriction. The external spermatic fascia is the covering of the hernia derived from the external oblique muscle of the abdominal walls. It simply represents a certain physiological growth, superinduced by intra-abdominal pressure along the inguinal canal, a line of least resistance in the abdominal walls.

Fig. III shows the middle spermatic fascia, the external spermatic having been turned aside. You will notice the remarkable thickness of the arched fibers of the internal oblique and transversalis muscles in this dissection. The part of this arch that in its growth preceded the hernia is variously called the cremasteric muscle, the cremasteric fascia, the middle spermatic fascia. The portion of the arch remaining above the protusion forms the active or strangulating part of the hernial neck. Will you now notice two distinct, and in this case easily demonstrable, layers of the cremaster; the outer is the muscular element, derived from the internal oblique muscle, and may be traced downward as distinct muscular fiber festoons, while the inner is simply a fascial element, traceable above to the transversalis muscle. Each element has its corresponding part in the abdominal walls; the muscular element is conceded by all authors to be a detached part of the internal oblique, while the fascial element, morphologically a part of the transversalis muscle, is universally ignored by authors.

Says Morris: "The cremaster is really a detached part of the obliquus internus, forming with the fascia, which connects its fibers with a thin, loop-shaped band, which in the male envelops the lower part and front of the testicles and spermatic cord. It originates from the upper and deep surface of Poupart's ligament, about its middle point. It is inserted into (1) the spine and crest of the pubic bone; (2) the front of the fascia propria or infundibuliform fascia, which envelops the testicle and spermatic cord."

Gray says: "The cremaster muscle is a thin muscular layer, composed of a number of fasciculi, which arise from the middle of Poupart's ligament at the inner side of the internal oblique, being connected with

that muscle, and also occasionally with the transversalis. It passes along the outer side of the spermatic cord, descends with it through the external abdominal ring, upon the front and sides of the cord, and forms a series of loops, which differ in thickness and length in different subjects. These loops are united together by areolar tissue and form a thin covering over the cord and testis, the fascia cremasterica."

Allen says: "The cremaster muscle is composed of a few sparsely distributed loops of muscle fibers, which, it is believed, originate from the internal oblique muscle. Associated with them, and constituting part of the same covering, is a thin layer of connective tissue, the cremasteric fascia."

Gerrish says: "The lower portions of the internal oblique give off a series of muscular slips, which are arranged in loops in front of and embracing the spermatic cord. They constitute the cremaster muscle, and the fascia in the spaces between them is the cremasteric fascia."

Wilson says: "The cremaster, considered as a distinct muscle, arises from the middle of Poupart's ligament, and forms a series of loops upon the spermatic cord. A few of its fibers are inserted into the tunica vaginalis; the rest ascend along the inner side of the cord, to be inserted, with the conjoined tendon, into the pectineal line of the os pubis."

Holden says: "It is best to regard the cremaster muscle as a detachment of the lowest fibers of the internal oblique, which arise from the middle of Poupart's ligament. The muscular fibers are frayed out, being connected by loose cellular tissue, and form a covering for the testis, called the cremasteric fascia."

Quain says: "The cremaster, a muscle peculiar to the male, consists of fibers lying in series with those of the lower border of the internal oblique muscle. It has an external and an internal attachment. The external attachment is to the inner part of Poupart's ligament, and there its fibers are continuous with those of the internal oblique muscle; the internal attachment, smaller and less constant, is by means of a tendinous band to the spine and crest of te pubis, close to the insertion of the internal oblique muscle. The superior fibers of the muscle extend between these attachments in a series of successively longer loops, descending in front of the spermatic cord, a few of them reaching as low as the level of the testicle; the remaining fibers, the greater number of which descend from the outer attachment, and only a few from the inner, spread out below and are embedded in the substance of a fascia termed cremasteric, which adheres to the fascia prapia of the testicle."

Leidy says: "The cremaster muscle forms a thin stratum of fascicles of striped muscular fibers enclosed in the spermatic fascia and descends from the inguinal canal to the testicle. It arises by an inner portion from the spine and crest of the pubis, and by an outer usually better developed portion from Poupart's ligament below the inferior attachment of the internal oblique and transversatis muscles. Descending on opposite sides of the cord, the fascicles mostly curve forward, and form a series of loops successively longer and more separated, with the lower ones spreading in the spermatic fascia and embracing the sides and front of the upper half or three-fourths of the vaginal tunic. Some of the fascicles diverge and end in the spermatic fascia without joining in loops. The inner portion of the cremaster muscle is often feebly produced or even absent, but rarely it is even stronger than the outer portion."

Fig. IV shows the internal spermatic fascia. This is derived from the transversalis fascia, and called synonymously infundibuliform fascia and fascia propria. You will note the absence of subperitoneal fat in this dissection, in this region. Notice also the extreme tenuity and delicacy of the transversalis fascia. The very dense fascial covering encountered by the surgeon, just prior to passing through the subperitoneal fat (if present) to the sac of peritoneum beyond, is not the infundibulum but the fascial element of the cremaster, derived from the transversalis muscle.

Fig. V shows the peritoneum, forming the innermost investment of the hernia sac. This covering is not abnormally thick, as were the external and middle spermatic fasciæ. The functions of peritoneum, as a secreting membrane, do not demand extraordinary thickness.

Fig. VI shows: 1. The testicle in the tunica vaginalis at the lower end of and behind the hernial mass, and twelve inches below the pubic spine. 2. The contents of the hernial sac, consisting of the sigmoid

and the greater part of both jejunum and ilium.

Fig. VII shows the large mass of the small intestine turned upward to expose the sigmoid and its meso-sigmoid.

Fig. VIII shows the external spermatic fascia of both hernia, the skin and superficial fascia having been removed. The lower end of the smaller hernia was necrotic.

Displaced organs and changes to meet the new conditions:

1. The testicles, much compressed, lay behind the respective hernial masses. The right 7, the left 12 inches below the pubic spine.

2. The penis, as previously stated, and as may be seen in Fig. I, is swallowed up by the great masses on each side. The organ lay two inches below the surface. It is much compressed: 1. From side to side, at the expense of the urethral part. 2. In its middle one-third it is sharply bent downward at a right angle. These distortions did not render urination impossible, since the clinical history is known to the contrary on this point, and excoriation of the skin, along the false conduit leading out from the concealed penis, permits no doubt regarding the patient's ability to void his urine.

3. The cecum lay in the pelvis, stretched in such a way as to be easily mistaken for the bladder, and extending from the beginning of one hernial sac to the other; the appendix lay in the beginning of the right, the ileo-cecal part of the gut in that of the left hernial opening.

4. The great omentum entered the right inguinal canal and brought the transverse colon down. The omentum formed the principal contents of the right hernial sac. The omentum and transverse colon lay in front of and intimately adhered to the cecum. Separation of adhesions produced rupture of the cecum.

The bowel obstruction was not in either hernia, but was due to the kinking of the transverse colon across and compressing the distorted and distended caecum.

4. In the left sac were found, but in no way adherent: (1) The sigmoid, with its entire meso-sigmoid attachment. This lay in the posterior and outer compartment of the sac. (2) The greater part of jejunum and ilium—all except 14 inches.

5. The transverve duodenum lay on the lumbo-sacral promontory. The right common iliac artery was deflected one inch to the left of the midline of the pelvis.

6. The displaced deep epigastric vessels lay on the upper surface of the horizontal ramus of the pubic bone, hence the hernia that produced the misplacement of these vessels was oblique. Had the hernia been direct, the misplacement would have been correspondingly outward, in which case the increased length of the vessels would have been necessitated. In this connection let us recall the greatly overgrown left spermatic vessels—about ten inches. Physiology teaches tortuosity of certain vessels, to meet just such emergencies as a pregnant state or as the hernia now under consideration. After all, has the artery not grown in length? Can we imagine the normal tortuous spermatic artery capable of being nine inches longer if the coils were made in a straight line?

This hernia occupied all the available space under the hernial arch of the internal oblique and transversalis muscles. Whether the protrusion occurred internal to or external the deep epigastric vessels, all the available space was filled. The classification of inguinal hernia into external and internal, with reference to the epigastric vessels, is a convenient arbitrary one for students—as a means to an end having in view memory drill; but from the standpoint of the surgeon in large herniæ filling all the available space, who can tell whether the neck of the sac is internal or external to the vessels before the operation? Now, since nearly every hernia operated on fills the available space under the arch, the classification into oblique and direct can be of little if any practical value.

Condition of hernial coverings: The skin covering the left hernia was thickened on account of contact with the clothing. The skin covering the lower part of the right hernia was gangrenous. The skin corresponding to the scrotal raphe was excoriated by the action of the dribbling urine and other uncleanly moisture. The superficial fascia contained no fat, hence we are to conclude (1) that either the skin covering of the hernia was of scrotal skin growth (since normally the scrotum has no fat); or (2) that the fat disappeared from pressure, scarce a justifiable conclusion. The intercolumnar fascia was unusually heavy and bandlike at a point corresponding to the external abdominal ring; below this point

the covering was like the normal aponeurosis of the external oblique muscle. The arch of the internal oblique and transversalis, as also their conjoined tendon, was very thick and strong and bandlike. The peritoneum in the lower part of the sac, where its secreting function was more or less lost, was thick and adhered to the infundibulum, but in the upper part of the usual thickness. The same is practically true of the infundibulum regarding thickness.

CLINICAL HISTORY OF CASE AND TREATMENT OF INGUINAL HERNIA.

The above case was under my care at Cook County Hospital previous to his death, with the following clinical history: C. W., German, laborer, age 61 years. Hernia on left side as long as he can remember. Ten days previous to admission to hospital, a hernia appeared on the right side, and the hernia on the left side increased in size during the night while asleep. He vomited every day and bowels moved every day. Hiccough was severe.

On admission to the hospital there was found a very large scrotal inguinal hernia on left side, not painful nor tender, with impulse on coughing and irreducible. On the right side there was found a smaller inguinal hernia, irreducible, red, tender and painful, but with impulse on coughing. The penis was completely covered, only a hole in the skin marking its sight. (Fig. 1.)

His general condition was bad, clammy sweat, weak, rapid pulse and a pinched, anxious expression. He refused treatment.

While in the hospital he took only a little beef tea for nourishment, vomited twice, simple stomach contents, not stercoraceous material. His bowels moved each day, except the day he died. He suffered much pain in the right hernial tumor, but none in the abdomen, hiccough was constant, slept very little. He became rapidly exhausted and died at the end of the fourth day.

The treatment of inguinal hernia varies according to the conditions present.

Inguinal hernia may be divided into:

(A) Reducible hernia.

(B) Irreducible hernia.

A reducible hernia is one that can be returned into the abdominal cavity by position or taxis.

An irreducible hernia is one that cannot be returned into the abdominal cavity by taxis.

Irreducible inguinal hernia may be:

(1) Simple irreducible hernia.

(2) Incarcerated hernia.

(3) Strangulated hernia.

Simple irreducible hernia cannot be returned into the abdominal cavity because of:

(a) Adhesion between the sac and its contents.

(b) Adhesions of the contents of the sac one with another, making a mass that will not go through the neck.

(c) Thickening of the omentum in the sac until it is too large to return through the ring.

(d) Contraction of the abdominal cavity attending a very large hernia of long standing, where the abdominal cavity becomes too small to hold the extruded viscera.

In simple irreducible hernia there is always impulse on coughing. There is no vomiting; there is a tendency to constipation; there is an indefinite feeling of weakness in the lower part of the abdomen.

Incarcerated hernia occurs when the passage of feces is obstructed in the imprisoned bowel, but without constriction sufficient to cut off the blood supply of the walls of the intestines. This condition occurs frequently in old relaxed people, who have suffered with hernia for a long time. The coil of bowel in the hernia becomes filled with feces, undigested food and gases, and if the hernia was reducible before, the mass now has become too large to get back through the ring.

The symptoms of incarcerated hernia are:

(a) Stomach vomiting—that is emesis only of stomach contents and gases.

(b) Constipation will be present, but not so complete but that it can be overcome by appropriate treatment.

(c) Impulse on coughing is present at the site of the hernial tumor.

Strangulated hernia occurs when the bowel protruded into the hernial sac becomes so tightly pinched that no feces can pass the constriction, and that the circulation of blood is cut off from the walls of the included intestine. The symptoms of strangulated hernia are:

(a) Fecal vomiting; as soon as the stomach is emptied the fecal or stercoraceous

FIG. 1. *A*. Location of conduit leading two inches up to the meatus urinarius externus.

FIG. 8. *A*. Penis. *B*. Small Hernia in which was found a Lire's Hernia of Cecum and transverse colon.

FIG. 2.

A. Superficial Circumflex Iliac Artery. *B*. Superficial Epigastric Artery. *C*. Superficial External Pudic Artery. *D*. Forceps passed under the aponeurosis of the external oblique. The handle rests on the thickened band (¼ inch) of this Aponeurosis, which corresponds to the neck of the Sac.

FIG. 3. *A*. Arch of Internal Oblique and Transversalis Muscles. *B*. External Spermatic, Intercolumnar fascia cut and turned back. *C*. Compressed and distorted penis liberated, and elevated from bottom of deep groove. *D*. Cremaster (muscular element) derived from the internal oblique, cut and turned aside.

FIG. 4. *A*. Cremaster cut and turned aside, exposing the internal spermatic or infundibulum. *B*. Fibrous element derived from the transversalis aponeurosis, **not the transversalis fascia.** *C*. Infundibulum, or internal spermatic fascia, derived from the transversalis fascia, not from the aponeurosis of the transversalis muscle.

FIG. 6. *A*. Hernial Sac cut and turned aside. *B*. Small Intestine—containing all the small intestine except the duodenum and the upper 12 inches of the jejunum.

FIG. 5.

A. **Infundibulum cut and turned aside, showing the Peritoneum.**

FIG. 7.

A. Small Intestine turned up, to expose the Sigmoid. *B*. Sigmoid and Meso-Sigmoid.

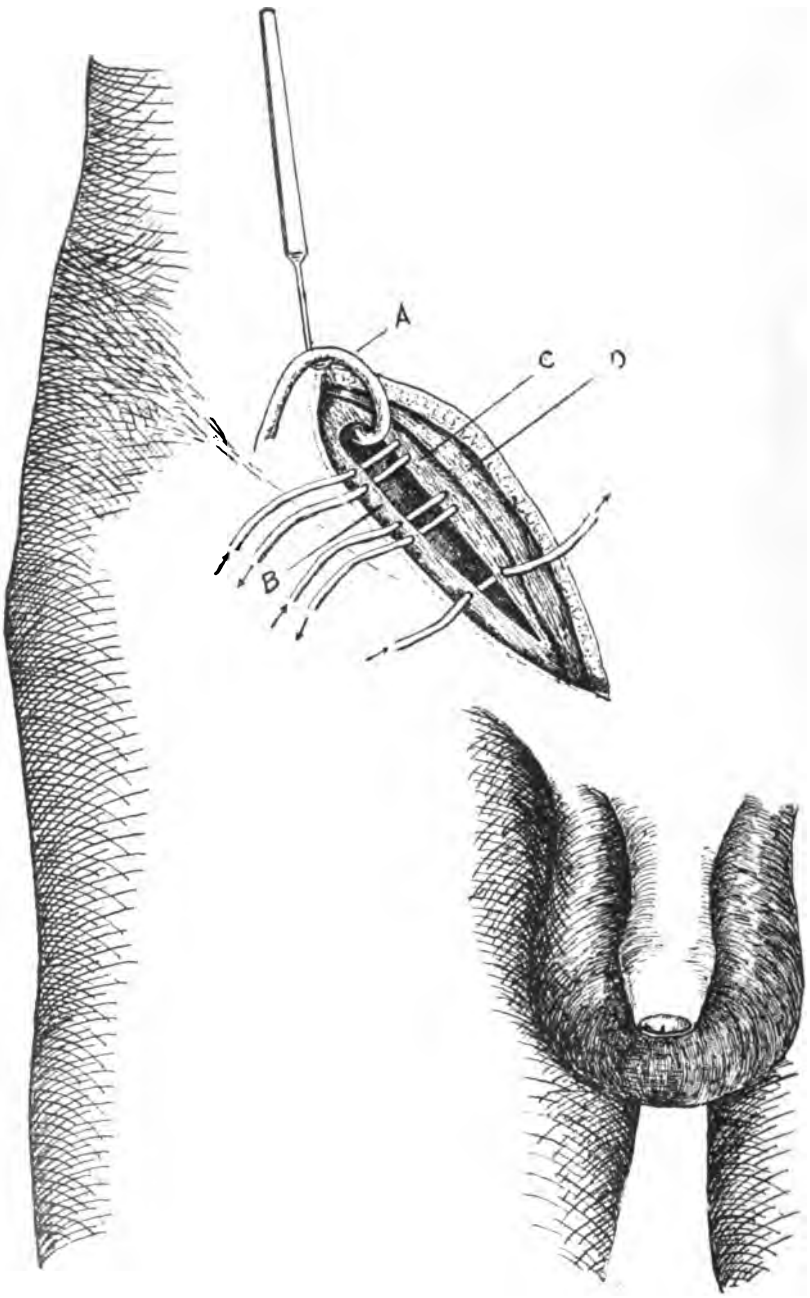

FIG. 9.

A. Cord. *B*. Poupart's Ligament. *C*. Conjoined Tendon. *D*. Aponeurosis of External Oblique Muscle.

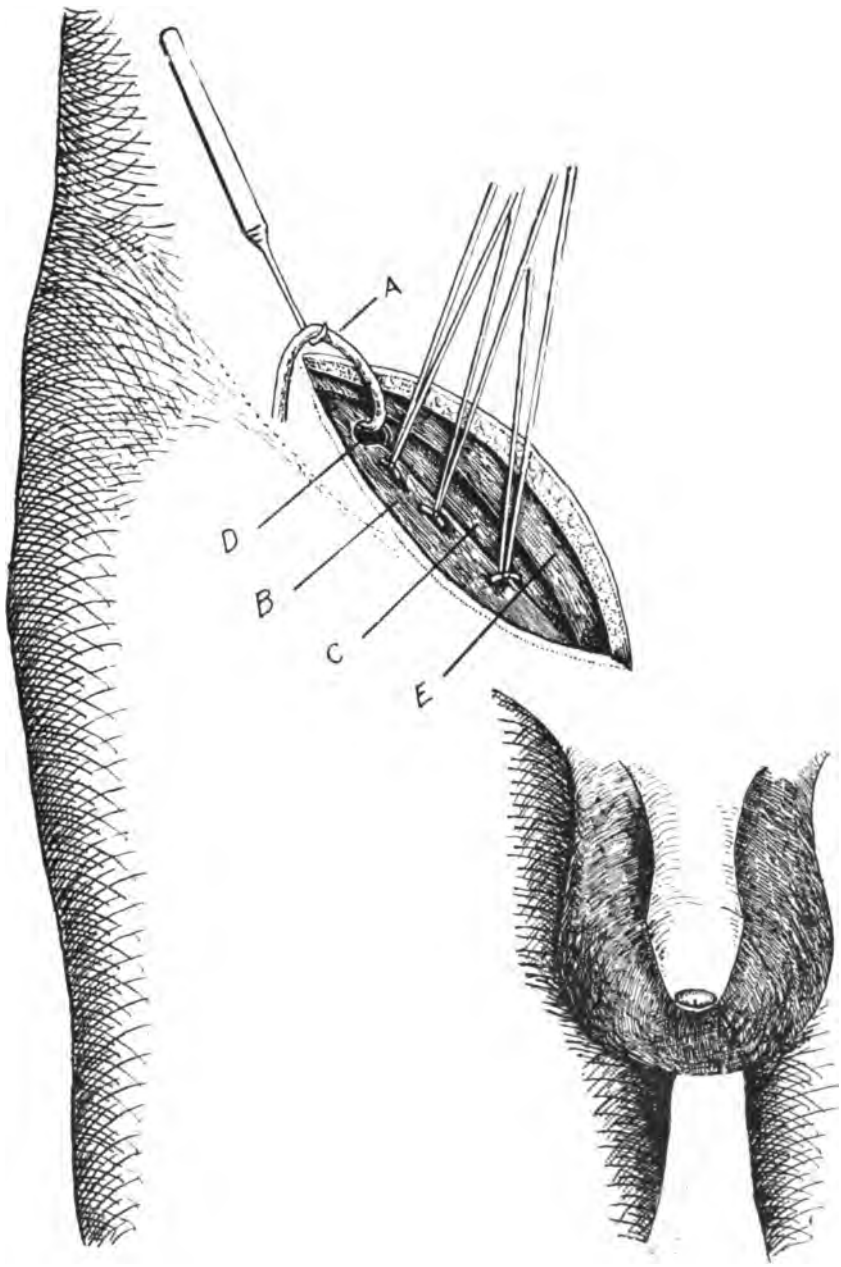

FIG. 10.

A. Cord. *B*. Poupart's Ligament. *C*. Conjoined Tendon. *D*. New Internal Ring. *E*. Aponeurosis of External Oblique Muscle.

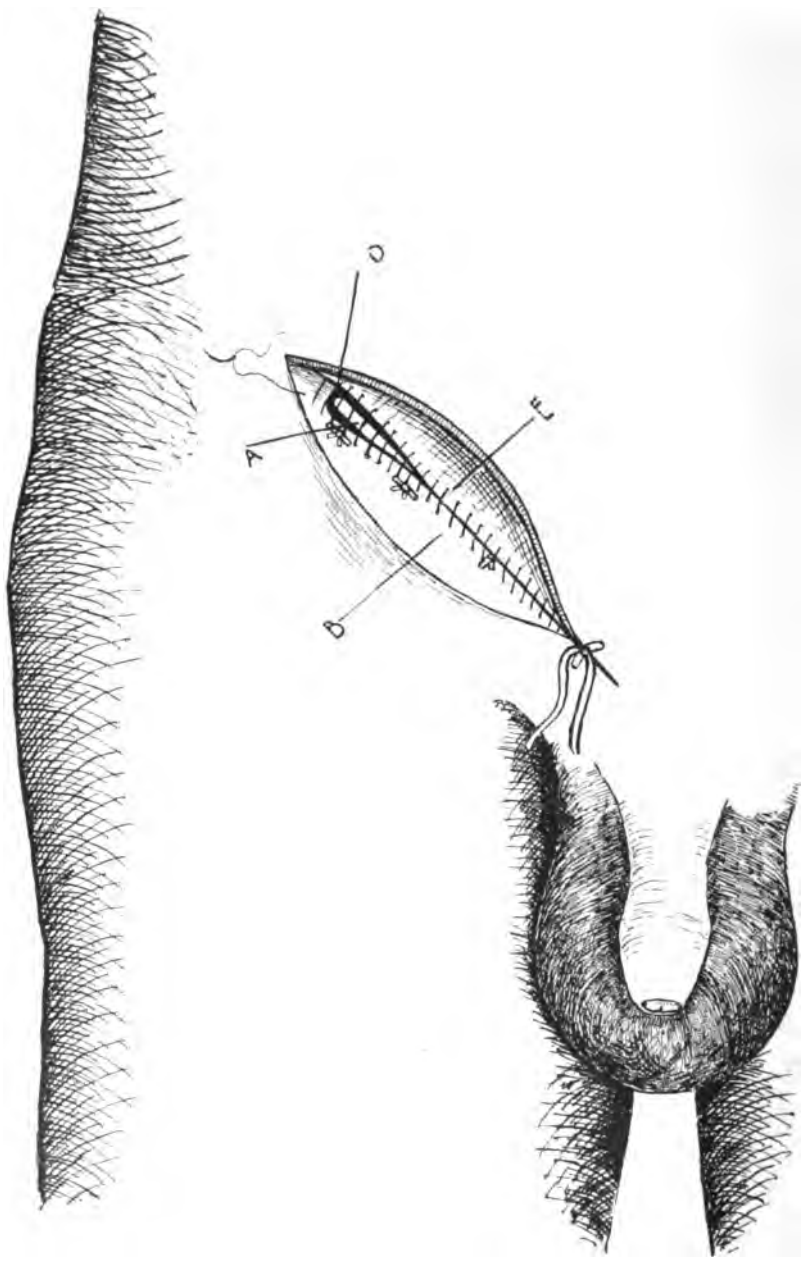

FIG. 11.

A. Cord. *B*. Poupart's Ligament. *D*. New Internal Inguinal Ring. *E*. Aponeurosis of External Oblique Muscle.

vomiting becomes persistent and exhausting.

(b) Absolute constipation; as soon as the bowels below the constriction have been emptied there can be no more bowel movements.

(c) No impulse on coughing.

(d) Pain in the tumor is severe and persistent until gangrene of the constricted part occurs, when the pain ceases.

This pathognomonic group of symptoms, occurring in an irreducible hernia, are absolute proof of strangulation, and if the strangulation is not promptly relieved shock, collapse and death rapidly supervene.

The radical cure or the truss is indicated in all cases of reducible hernia. The patient should decide between the dangers of an operation and the discomfort and inconvenience of wearing a truss.

The radical operation is indicated in all cases where the truss fails to retain the hernia in the abdominal cavity, unless the condition of the patient from other causes is such as to prohibit an operation.

Trusses are contraindicated in all forms of irreducible hernia.

Simple irreducible inguinal hernia indicates an operation for the radical cure of the condition in all cases, except where the abdomen is too small to receive a very large old hernia, or where some other disease or condition of the patient makes any operation extra-hazardous.

Incarcerated inguinal hernia can generally be relieved of the obstruction by diet, cathartics, colonic flushings and position, and when the obstruction is relieved the treatment for simple irreducible hernia is indicated. If the obstruction cannot be relieved the hernia should be at once subjected to the same treatment as if strangulated.

Strangulated inguinal hernia should in all cases be subjected to herniotomy for the relief of the strangulation at once. Reduction by taxis, when possible, is not only liable to reduce the whole strangulation en masse, but to reduced gangrenous intestine into the abdominal cavity.

In herniotomy for strangulation, the hernial sac should be opened under the most strict aseptic precautions and the constricting ring divided at its upper and outer part to avoid the deep epigastric artery. The strangulated intestine should be covered with hot, wet sterile laparotomy sponges and given time to re-establish the circulation. If the dark red hyperemic color becomes brighter and the gloss of the intestine is present, or if there is peristalsis in the strangulated portion, then the injured intestine should be replaced into the abdominal cavity and the wound closed in the same manner as in the operation for the radical cure. But if the intestine is black or blackish-brown, and without luster or does not react after a reasonable time, when covered with hot, wet cloths, and peristalsis is not produced in the strangulated part by stimulating the adjacent healthy intestine by sterile salt, then it is or will become gangrenous, and must not be returned into the abdominal cavity.

When the strangulated intestine has become gangrenous it should be resected well in healthy tissue and the healthy ends united by enterorrhaphy and dropped back into the abdominal cavity and the wound closed as in the operation for the radical cure.

But if the condition of the patient be so precarious that death would likely result from resection of the gangrenous intestine, or if it be already ruptured into the hernial sac, then both ends of the gut should be sutured to the skin and the gangrenous part excised, making an artificial anus, which should be closed at a later date under more favorable circumstances.

The radical cure of hernia is brought about by an operation which replaces the parts as near as possible to their original position before the hernia occurred. Under thorough aseptic conditions an incision is made through the coverings of the hernia, down to the sac, making the cut of sufficient extent to open the inguinal canal throughout its entire length, and to uncover the internal inguinal ring.

The cord is carefully isolated from the sac and placed aside and the sac separated from the surrounding tissues, until it is free from the internal ring. The sac is opened between dissecting forceps to prevent injury to the included intestine.

The intestinal contents are freed and returned to the abdominal cavity, thickened and diseased omentum is ligated and cut off.

The sac is trimmed off just below the neck and the edges sutured together with

catgut, endeavoring to make the internal peritoneal surface perfectly smooth, so that there will be no depression to start a new hernia.

The cord is examined and any large veins are tied and dissected out to make the cord small at the new internal ring. The conjoined tendon is sutured below the cord to Poupart's ligament by a layer of buried imbricating sutures. (Fig. 9.)

The first suture shapes the new internal ring, and is introduced so as to make the opening large enough to transmit the cord without strangulating it and small enough to keep intestine out. Bruising or pinching the cord will produce orchitis and subsequent atrophy of the testicle.

These imbricating sutures are the reverse of the mattress suture, and bring Poupart's ligament on top of the conjoined tendon, leaving a place for the cord equal in depth to the thickness of Poupart's ligament.

They are passed about 1 c. m. apart, and of sufficient distance from the edge to take up all the slack, so that when they are tied and cut short this layer is tense and firm. (Fig. 10.)

This makes the posterior wall of the new inguinal canal.

These sutures are buried and must be of material that can be sterilized, that will be absorbed or organized, that will hold the parts together until they are firmly united, that is antiseptic and will remain antiseptic and free from infection from the blood current as long as it is a foreign body.

Boeckmann's formalin-silver catgut, sterilized by dry heat at a temperature of 280 degrees F. for three hours, impregnated by lactate of silver until its entire integrity is stained black, and hardened in 5 per cent formalin-alcohol, will last six weeks in a clean hernia, and is as near an ideal hernia suture as has yet been produced.

The cord is next dropped into the groove at the edge of Poupart's ligament, and the aponeurosis of the external oblique muscle is sutured to the shelving edge of Poupart's ligament over the cord by a continuous catgut suture (Fig. 11), forming the anterior wall of the new inguinal canal, which protects the cord from future injury and seals the new internal ring like a valve by the action of the external oblique muscle whenever there is intra-abdominal pressure.

The superficial fascia and skin are closed by interrupted silk wormgut sutures and a large sterile dressing applied and left for a week, by which time, if the technique has been perfect, clean aseptic healing will have occurred.

The Diagnosis of Incipient Phthisis.*

By J. H. Salisbury, H. M., M. D.
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Probably no diagnosis that the practitioner is called upon to make is of graver moment, affecting as it does not only the health and comfort of the patient, but also his financial interests to an unusual degree, since a positive decision involves a change of climate, with its accompanying disturbance of business and increase in the expense of living. On the other hand the possibility of cure depends very largely upon an early diagnosis. The clinical picture of phthisis is made up of several pathologic factors, each having a distinct influence upon the course of the disease. We have the original infection with the tubercle bacillus causing both local and general symptoms; we have also an early derangement of the digestive tract, with accompaying impairment of nutrition, and, frequently, an intoxication from poisons generated in the gastro-intestinal tract; we have infection with the pyogenic organisms leading to destruction of lung tissue and marked systemic poisoning. It is important that the diagnostician be able not only to name the disease, but also to appreciate the importance and influence of these various factors.

The first suggestion that I would make in regard to the early diagnosis of phthisis is that we should be on the lookout for its occurrence. That tuberculosis is a very common disease is evident, not only from the fact that a large proportion of the deaths occurring in any community is caused by it, but from the fact that autopsies reveal many instances of healed tuberculosis. A large proportion of these escape recognition by the physician and it is probable that some cases of tubercular disease heal so perfectly as to escape recognition even upon

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the post-mortem table. We may quote with approval the words of Dr. Taylor of St. Paul (Journal of Tuberculosis, April, 1899): "Suspect every chronic case of harboring tuberculosis until its innocence has been established." We should bear in mind the sources and channels of infection, because if we are aware of the danger of infection we shall more readily discover the first indications of the malady. Diseases of the mucous membranes, especially the chronic catarrhs of the respiratory tract, should be objects of suspicion. In this connection I would call especial attention to the tubercular character of many cases of adenoids of the naso-pharynx. Dr. Beck (Deutsch. Med. Wochenschrift, No. 9, 1899) found that out of thirteen cases of adenoid hypertrophy of the nose, twelve gave a positive reaction with tuberculin. If this disease is so frequently tubercular, it is evident that it may, in many cases, be the starting point of tuberculosis of the lungs. The frequency of tubercular pleurisy should also be borne in mind. Beck found that 73.2 per cent of cases of pleurisy reacted to the tuberculin test. Every case of pleurisy ought, therefore, to be most carefully watched during convalescence for the manifestations of incipient phthisis. The lymphatic system should be carefully examined. The digestive tract should reecive most careful attention. It is often the case that infection of the organism with tuberculosis shows most clearly the derangement of the digestion before other evidence is available. Every chronic digestive disorder should arouse suspicion lest it be a part of a more widespread affection caused by tuberculosis. The frequency of tubercular infection through the gastro-intestinal tract should also be borne in mind. Attention has frequently been called to the danger of children acquiring tuberculosis from infected milk, but the similar risk undergone by adults, when they consume much milk in its raw state, should not be lost sight of. The frequent sequence of phthisis upon acute diseases, such as typhoid fever, influenza, etc., may be partly due to the large consumption of milk in these diseases.

Passing now to symptoms indicative of the established disease, due note should be taken of the temperature, the pulse and general condition, especially as indicated by loss of weight. A regular rise of temperature ture, especially in the evening, is a suspicious circumstance. Hemorrhage from the lungs is almost invariably the precursor of phthisis so that its importance as a positive sign is very great.

We may classify the signs elicited by an examination of the chest in two groups, viz., first, those indicating the physical condition of the lungs, and second, those which indicate a disturbance in the functions of these organs. Thus we have a group of signs which, taken together, indicate a consolidation of the lungs. These signs are dullness on percussion, increased vocal fremitus, high pitched and prolonged expiration, and increased vocal resonance. When these signs are found together with the usual symptoms, the diagnosis of phthisis may be considered as established. But it must be remembered that in themselves they establish nothing more than the fact of consolidation and this may be due to other causes.

Moreover, when these signs are present we must consider the disease well advanced and the diagnosis cannot be properly called an early one. These signs usually accompany each other, but they are produced in different ways and they cannot be expected to be always of equal intensity or distinctness. One may be more prominent in one case for one cause, and another for another reason in a second case. Dullness on percussion, when present, is evidence of some kind of consolidation, but in some cases it does not occur when we might expect it. For instance, if a layer of emphysematous tissue intervenes between tubercular nodules and the chest wall, the dullness due to the tuberculosis may be masked by the resonance of the emphysematous lung, so that if we relied upon dullness as a necessary sign we might fall into error. It mu t be remembered also that the percussion note is modified by the direction of the blow so that if the stroke be directed toward the trachea, the resonance of this tube may conceal a slight dullness in the lung. The dullness due to tuberculosis in the early stages is slight, and requires careful manipulation to bring it out satisfactorily. The regions above the clavicles and the supraspinous and interscapular regions behind should be most carefully examined as it is in these regions that dullness has its earliest manifestations. The examination of the posterior regions of the chest should never be neglected in a case of suspected phthisis. The two sides

of the chest should be compared with each other, region by region, taking care that the percussion should be made in the same manner, with the same force, and at the same period of respiration in each case. Vocal fremitus is elicited by placing the fingers upon the chest and asking the patient to speak, when a peculiar thrill is felt if the lung is consolidated.

Upon auscultation the diagnostician should seek to determine precisely the character of the sound, in its various properties of duration, pitch and quality. While the adventitious sounds called rales are of importance and when heard of a striking character, they should give place in importance to the less marked, but more significant changes in the breathing. In consolidation of the lung the inspiration is raised in pitch, and the expiration, scarcely audible in health, is raised in pitch and prolonged. A slight degree of this change constitutes bronchovesicular breathing, and can sometimes be heard to a slight extent at the right apex in normal chests. The respiratory murmur is apt to be very weak in phthisis and this may be a very suggestive sign in early cases. The voice sounds are exaggerated and raised in pitch. The slight character of the changes in respiratory sounds in early phthisis should be borne in mind. The importance of careful instruction in the physical diagnosis of the chest cannot be overrated when it is remembered that in cases of this disease in many cases the disease has passed beyond the stage in which cure is possible before either patient or physician thinks it necessary to consult an expert diagnostician.

Next to the evidences of consolidation come those which indicate a catarrhal process in the lungs. As symptoms of this state we have cough and local pain in the chest, together with the expectoration of mucus or pus. In exceptional cases this may contain shreds of pulmonary tissue. By auscultation we may obtain evidence of this pathological process in the shape of rales which in phthisis are usually of the moist variety, and are heard both in inspiration and in expiration. Sometimes rales are not heard until the patient is made to take a deep breath, when areas are opened up, which before were entirely quiescent. The significance of rales is limited to confirming the diagnosis of a bronchial catarrh which may or may not be tubercular.

Indeed, the combined signs of consolidation and apical catarrh may be produced by a catarrhal pneumonia of non-tubercular origin which may be cleared up in a short time, leaving no trace of its existence. It is, however, very rare that such a combination of signs deceives the careful diagnostician.

We have in conclusion, to speak of two unequivocal signs which should be used in cases in which they can be made available. The first of these is the examination of the sputum for tubercle bacilli. In cases of miliary tuberculosis, and in cases of phthisis, in which the bacilli are imbedded in the tissues, we cannot obtain positive information by this means, but must wait until the bacilli appear in the sputum. We should hesitate to make a negative decision on a single examination, where other symptoms give ground for suspicion, but should repeat the examination until satisfied that the bacilli cannot be found.

The use of tuberculin injections has not been accorded the place as a diagnostic procedure that its merits seem to warrant. This is partly due to its failure as a therapeutic measure, and partly to the fact that the use of too large doses has caused a fear of spreading the disease throughout the body by the liberation of tubercule bacilli, which have been rendered innocuous by inclosure in inflammatory products. That this fear is unfounded is shown by the fact that notwithstanding its use by veterinary surgeons in innumerable cases for diagnostic purposes, no instances of aggravation of tubercular diseases have been reported.

Says Professor Koch: "The apprehension that, following the reaction, the tubercle bacilli might be unfettered and transported into healthy parts of the body has proved to be futile in the many thousand cases of injections made into cattle for the purposes mentioned. This fully agrees with my own experience in more than a thousand cases in which tuberculin was used for the early diagnosis of tuberculosis. Here, too, in not a single case could the slightest indication pointing to an unfettering of the tubercle bacilli be observed." (Deutsch. Med. Wochenschrift, April, 1897.) In regard to the value of tuberculin as a diagnostic agent, Dr. F. W. White concludes that an absence of a reaction indicates almost universally an absence of tuberculosis, and the occurrence of a reaction indicates the presence of tuberculosis in more than four times out of five. The exceptions include cases of lepra.

syphilis, and actinomycosis. In these cases the reaction is usually slight. In cases of syphilis it is possible that the syphilis is complicated with tuberculosis. Before making the test the temperature of the patient should be taken once in two hours for one or two days. In case of considerable febrile disturbance the indications of the test cannot be relied on. The injection should be given preferably at night. The injection should be made into the loose subcutaneous tissue between the shoulders, and should a local inflammatory reaction occur the rise of temperature may be due to this inflammation and the test must be regarded as unsuccessful. The initial dose should be 0.001 gm. of the crude tuberculin and the reaction should occur in from 18 to 24 hours. If the first injection is not followed by a reaction another dose of 0.0025 gm. should be given at the end of several days. If no reaction follows the second dose, a third of 0.005 and a fourth of 0.01 should be given. If no reaction occurs after the fourth dose, the patient may be regarded free from tuberculosis. The reaction is both general and local. The general reaction consists of rise of temperature from one or two degrees up to four or five, headache, sense of constriction in the chest, rapid pulse, nausea, and at times diarrhea.

The local reaction is manifested by increased congestion about the tubercular region, giving rise to roughened breathing, sore joints, tender enlarged glands, etc.

Injections of salt solutions and of certain proteids, such as peptones, may cause malaise with rise of temperature, but they do not produce the local reactions of tuberculin. The local reaction must therefore be considered the most characteristic of tuberculosis. The tuberculin test is most sensitive in the early stages of the disease, and should be reserved for those cases in which doubt exists after the use of the ordinary means of diagnosis.

Membranous Conjunctivitis Produced by Bacillus Influenza; Foreign Body Imbedded in Lens Removed by Electro-Magnet.

By F. A. Phillips, M. D.,

Professor of Ophthalmology, Chicago Clinical School; Assistant Surgeon, Illinois Charitable Eye and Ear Infirmary; Clinical Instructor in Ophthalmology and Otology, College of Physicians and Surgeons.

M. M., girl, age 4. At 11 a. m. parents observed slight mucus discharge collecting in eyes. She made no complaint of distress until 5 p. m., when it was observed the lids were swollen and the discharge becoming profuse. When seen by myself at 6:30 the case was typical of a very severe form of membranous conjunctivitis. The lids were oedematous, red and swollen, the child being able to expose but a small area of the cornea to view. The cilia were matted together with a profuse tenacious discharge. Removing this and everting the lids, a false membrane was exposed, covering the superior and inferior palpebral conjunctivæ, its removal showing its greater development over the superior. This was done by grasping it with a pair of small dressing forceps—it was quite firmly adherent and numerous bleeding points covered the surface thus exposed. Before its removal preparations were made to take cultures from the membrane, and the surface beneath it for diagnostic purposes.

The ocular conjunctivæ were free from membranous involvement, but beneath the superior half in each eye was an intense sub-conjunctival ecchymosis. The corneæ were clear and irides uninvolved. Chemosis was marked.

Treatment was instituted, consisting of, first, thorough irrigation of the conjunctival sac, with 1-5000 sol. of bichlorid of mercury, followed by application of cold; atropin 1 per cent was instilled to insure rest to the iris and ciliary body. At intervals of 30 to 60 minutes during the night the eyes were irrigated with a sat. sol. acid boric, and a 1-4000 potass. perman. sol., alternating. These were continued throughout the treatment at gradually lengthened intervals. The oedema of the lids, chemosis and ecchymosis of the ocular conjunctiva continued to increase for 8 hours, after which regression of the symptoms occurred. After 8 p. m., and during the following 24 hours, the lids were so swollen that the cornea could not be exposed by efforts on the part of the patient to elevate her lids. After 12 hours' treatment the cold applications were discontinued, and hot fomentation employed every 2 to 4 hours, until the swelling was well under control.

At the time of my first visit the temperature was elevated to 101° F., at no time during the following 6 days did it become normal, ranging from 99.6° to 101° F.

The culture taken before the beginning of treatment, as also two others taken on the second and fourth days, were sent to the City Health department. The second

and third cultures were taken after discontinuing all treatment three hours. Dr. F. Wynekoop of the department reported the finding in each specimen of a nearly pure culture of bacillus influenza, all other pathogenic bacteria being absent.

This fact taken in connection with the continued temperature, continuing as it did several days after the active inflammation of the eyes had ceased, the presence of this organism in the secretions of the eye, the absence of other conditions to account for the continued temperature, together with the unusually violent onset as compared with other cases of membranous conjunctivitis, led me to diagnose this a case of membranous conjunctivitis due to the infection with the bacillus influenza.

D. K., male, age 35. Applied to me in my clinic at the Illinois Charitable Eye and Ear Infirmary with the history that three hours before, while chipping iron, a particle struck him in the right eye. It was followed by a gush of what he called tears from the eye. The cornea presented a small linear cut about two millimeters in length, just below the center; the anterior chamber was shallow, the iris being pushed forward slightly. Pupil contracted, ciliary injection marked. T.-1. Examination by reflected light showed lens substance protruding through the pupil into the ant. chamber. The pupil responded promptly to atropin, after which a foreign body was plainly visible, well back in the substance of the lens, it having passed directly through the pupil without injury to the iris.

The eye was irrigated thoroughly and cocainized preparatory to attempting removal with the electro magnet. The first application of the magnet drew the foreign body into the ant. chamber. A smaller magnet tip was then introduced into the ant. chamber, through the opening in the cornea made by the steel in entering the eye. Care was taken to bring it in contact with the narrow end of the foreign body, now plainly visible in the ant. chamber. The current was turned on and the successful removal of the steel through the opening it made in entering was completed.

The other treatment of warm irrigation with sat. sol. acid boric and 1 per cent atropin sulph. sol. instilled four times daily, carried the eye through the stage of swelling of the lens with a moderate reaction, and to-day it is quiet; the ant. chamber contains a number of pieces of lens material and the light perception and projection are good.

The steel removed is a scale, measuring 2 by 3½ miilimeters. The point I wish to particularly emphasize is its removal without enlarging the opening it had made in entering the eye.

Anesthesia and Anesthetics.*

By W. A. Kuflewski, M. D.,
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The subject of anesthesia and anesthetics is a large one, and must be thoroughly considered. The great variance of opinion as to the choice of anesthetics, the mode of administration, physiological effects and therapeutic action requires skill and study. The choice of anesthetics for production of general anesthesia is one of the most serious obligations of the surgeon, and yet it is given the least consideration of any part of the surgical procedure. In the majority of operations the entire danger is that of the anesthetic, and yet many physicians receive hardly any practical, and very little, if any, theoretical instruction in the proper administration of anesthetics. The choice of the anesthetic should depend upon the safety of the agent and condition of the patient, the necessity of operation and attending circumstances.

After the discovery of ether anesthesia by Morton of Boston, September 30, 1846, Oliver Wendell Holmes suggested the word "anesthetic" as a suitable term for a drug which removes the sense of pain. Long of Georgia caused anesthesia by ether in 1842, and Simpson of Edinburgh, in November, 1847, noticed the anesthetic power of chloroform on himself and his friends.

Surgical anesthesia is loss of consciousness, loss of sensibility and muscular relaxation. General anesthesia is produced by the action of an anesthetic upon the nerve centers; the process itself is unknown as yet. Local anesthesia is when the peripheral sensory endings are directly acted upon. The anesthetic should be used only when needed, and when employed is should be chosen with distinct ideas as to the individual peculiarities and indication in each case. We should always remember that when the patient is under the influence of the drug, his

*A clinical lecture before the class of the Chicago Clinical School.

consciousness is destroyed and he is nearer death than an ordinary human being, since the primary depressing influence upon the high nerve centers may needlessly pass to the vital centers in the medulla oblongata. An anesthetic should be given only with the consent of the patient, that of his or her relatives or friends, but in emergency cases, where the patient is incompetent to decide for himself or herself, and there are no friends present, then the surgeon may take the responsibility of administering an anesthetic. When women are to be anesthetized, there should be a reliable female present, for comfort of the patient and for protection of the physician, as there are cases where the medical attendant has been accused of assault while the patient was under the influence of the drug. Every practitioner should remember that responsibility does not cease when the patient returns to consciousness. It is erroneous to think so. An anesthetizer shall take care of the post-anesthetic distress.

Administration of Chloroform and Ether.—I am certain that the operator is not competent to watch the anesthetic, because his attention is concentrated upon the operation itself, therefore a thoroughly capable person should administer the anesthetic. The one to whom is entrusted the responsibility of administering ether or chloroform shall give the closest attention to even the minutest details of his work. He should watch for danger. He must be able to recognize complications, as soon as they appear, and be able and ready to manage them. Thorough cleansing of the alimentary tract and liberal flushing of the kidneys, urinalysis made again and again, the condition of the heart, lungs and so forth should be considered. No food should be taken within six hours of an operation.

Removal of artificial teeth and all foreign substances in the mouth should be attended to by the anesthetizer. Have an ether inhaler. You can make one yourself out of a towel and a newspaper. Fold the towel and paper so as to form a square cone with the towel on the inside. Have chloroform and ether ready. Have the gag, tongue forceps, towels, cotton, catch forceps and so forth at hand. The two instruments, e. g., mouth gag and tongue forceps should be used with great care, and with a knowledge of anatomy. That is, care should be taken not to tear or to make the tongue bleed, so there will be no grave injury resulting to the tongue thereafter; and this instrument should only be used when really necessary. We know that when the jaws are widely open, the tongue will more readily fall into the back of the throat than if the mouth be kept shut. Now, the question of fright should be well understood; that there are patients who can be frightened to death, and whose death from fright plus anesthesia might be attributed to the particular anesthetic given, whether ether, chloroform or any other.

All the substances which have been employed to induce general anesthesia are volatile at ordinary temperature. How the effect of anesthesia is produced is not a settled question. Some authors claim that it is produced by an indirect influence upon the central nervous system, while others believe that narcosis is due to the stimulation of the vagi, followed by cessation of the pulmonary circulation and coagulation of the blood in the pulmonary system; some that the narcosis due to the anesthetic is produced by a specific action of these substances on the central nervous system, and that the blood acts only as the carrier of the anesthetic; but how it is produced is still a mystery. The local effect of anesthetics is irritation which produces increase of salivation and increase of bronchial secretion, and this should be observed when the anesthetic is inhaled. We should remember that there is what we call a sudden cessation of respiration and circulation which is due to reflex stimulation of trigemnii and the superior laryngii. This explains the sudden death which sometimes takes place at the beginning of narcosis.

As soon as the anesthetic has passed the primary respiratory channel, it enters the lungs, is there absorbed by the blood and by way of left ventricle is distributed through the whole body. This is the only way that the general or constitutional effects of the narcotic is produced. We know that the absorption of the anesthetic and the proportion which is retained in the blood and system are dependent on purely physical facts. The intensity of action depends on the volume per cent of the anesthetic—on the fixed quantity of the narcotic contained in the inspired air.

Chloroform.—This anesthetic was simultaneously discovered in 1831 by Guthrie of the United States, Souheiran of France and Liebig of Germany. Dumas gave the name, and James Simpson of Edinburgh first used

it as an anesthetic. Chloroform is perchlorid of formyl obtained by the action of chlorin upon alcohol, with addition of chlorohydrate distilled and purified with addition of sulphuric acid and sodium carbonate and redistilled. Chloroform is not inflammable, but we should remember that chloroform is liable to decompose. This generally happens when it is exposed to the sunlight and warm temperature. When it is decomposed it is very noxious to a person inhaling it. This can be overcome by keeping a little slack lime in the bottle, and filtering of the supernate liquid as required. To test chloroform, pour on a blotter; after evaporation there should be no odor; if evaporated in a watch-glass, there should be no residue left.

Administration of Chloroform.—Before giving the anesthetic, the heart, blood vessels, urine, pupil, and the condition of the

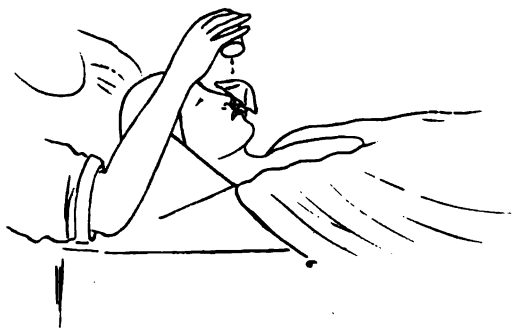

Fig. 1. Method of Administering Chloroform.

patient in general should be examined with the greatest care; find the idiosyncrasy of the patient. Immediately before the drug is given, carefully inquire whether the patient has some foreign body in the mouth, such as false teeth, tobacco, pins or chewing gum. Overlooking these and not removing from the mouth any foreign substance may cause grave difficulty by obstructing the air passages. Let us remember that failure of respiration is not the only way in which death is produced by chloroform. As we know, in many cases the heart ceases before respiration. L. Hill recently expressed the view that the cause of chloroform collapse was in all cases primary failure of the circulatory mechanism, the respiration, failing secondarily, on account of anemia of the bulbar centers.

Contraindication:—Fatty degeneration and dilatation of the heart; because the cardiac walls are the most compromised, and may not be able to resist the engorgement resulting from increased arterial pressure. In aortic insufficiency chloroform may be given. Always remember that respiration should not be interfered with. The patient shall be in perfectly loose garments and in the recumbent position, because when the vaso-constrictors are paralyzed by injuries or poisons, such as chloroform, the influence of gravity becomes manifested, owing to dilatation of the abdominal veins, with corresponding emptying of the heart and its cessation. Hence dental position is dangerous.

Death in sitting posture occurs from sudden cessation of the heart action through abdominal engorgement and depletion of cerebral vessels. Air should not be surcharged with moisture, because there is a tendency to water-logging of the lungs under chloroform. The temperature of operating rooms should be about 70 degrees F.—higher rather than lower.

The patient's fear should be allayed by kindly and encouraging words, as death is sometimes caused by heart syncope resulting from fright; avoid the show of surgical instruments. For administration of chloroform you can use a handkerchief or a cone made from wire and folded gauze put over it. On account of the irritating action of chloroform, apply cold cream or vaseline to the face.

Drop bottles should be employed for the anesthetic. Take two-ounce bottle and ordinary cork, cut out a shallow groove on one side of the cork, and put in the groove a silk ligature about two inches long, which makes a good substitute for a drop bottle. With the patient lying in the recumbent position, the chest is bared. You may take cotton, wet this and apply to the eyes, so that the chloroform will not irritate them, and then the drop method is to be used. Put four or five drops upon the handkerchief. Do not hold too close to the face, thus enabling the patient to inhale well diluted vapor at first. Repeat this every fifteen seconds, and when narcosis is complete two or three drops of chloroform every minute are sufficient to keep the patient under the influence of the drug. Coughing indicates that the air inhaled is too heavily charged with chloroform. Struggling in the first stage shows want of air.

Coughing, gasping, choking and struggling are the symptoms of approaching danger in chloroform anesthesia. The stages of chloroform are divided into four,

by Snow and Baxton. First stage: From the commencement of the inhalation to the loss of conscious control of the limbs. Second stage: Loss of conjunctival reflex and rigidity of the muscles. Third stage, or surgical stage: When the muscles are relaxed, the conjunctival reflex is lost and the pupil is contracted. Fourth stage: When the medullary centers are affected, the pupils dilated, the respiration gradually fails, the muscles absolutely relaxed, the sphincters cease to act, while the circulation fails. Beyond this stage convulsions occur, the breathing ceases and the heart and circulation come to a standstill.

Symptoms of collapse are alike in all cases. Sudden and complete blanching of the face; the eyelids fall open; the eyeballs are fixed in the upward position and pupils fully dilated; the cornea becomes glazy and sticky; the pulse and cardiac impulse are at this time no longer to be felt; respiration finally ceases at the moment when the blanching and the stoppage of the pulse occur. Sometimes a few feeble and irregular inspiratory gasps are subsequently drawn.

The Method of Resuscitation.—Use artificial respiration by Sylvester's method, or inversion, and hypodermic injection of 1-30 of a grain of strychnine. Clean the mouth and throat of saliva, mucus vomited matter, blood and so forth. You may use Wood's forced inspiration, electricity, nitrate of amyl, and so forth. Injections of the salt solution, 6 per cent. The injection may be either intravenous or subcutaneous. The quantity to be injected depends upon the amount of blood lost during the operation.

A C E mixture proposed by Harvey is as follows: One part chloroform, two parts ether, three parts alcohol. It can be administered as chloroform, but I would never advise the use of this mixture. The chloroform has been also mixed with nitrate of amyl, one dram to the pound. As has been claimed, the indication is in weak hearts and further does away with the stage of excitement.

Chloroform During Labor.—Chloroform directly diminishes and may suspend uterine activity during the period of its exhibition. The same effect is observed on the abdominal muscles; the bearing-down efforts cease, but are resumed as the patient awakes. Just through these effects—the suspension of uterine contraction and bearing down—it becomes a valuable aid in difficult intrauterine maneuvers. The administration of chloroform during labor must be intermittent; is should be given only at the beginning and during the labor pains, to the stage of analgesia only. There should always be an extra physician to administer the drug.

The administration of chloroform is preferred in cases of phthisis and in diseases of respiratory tract and pulmonary diseases. In ophthalmic surgery; in operations about the mouth and jaws; in abdominal surgery; in cases of accident, when person has taken food within six hours; in brain surgery, and in children generally.

Ether.—Sulphuric ether is made by the action of sulphuric acid upon ethylic alcohol. Sulphuric ether or oxid of ethyl when evaporized is heavier than air; being inflammable we shall remember that the light when in use shall be higher than the ether cone. The purity of the ether is tested by adding to it a small amount of oil of copaiba. Clearness indicates purity. Cloudiness in motion indicates the presence of alcohol or water.

Fig. 2. Method of Administering Ether.

Administration of Ether.—The patient shall be well covered to prevent lowering of temperature. Pour a small quantity of ether in cone, and to avoid strangling of patient keep some distance from the face, so that the air becomes slightly impregnated with ether, then the ether impregnated with the air, and then push until the ether vapor is inhaled with small quantity of air only. Apply the cone close to the face. The stages of ether anesthesia we may divide into three. The first stage: Patient shows symptoms of mental confusion, the pulse is increased in strength and rapidity, and the respiration is accelerated; at this time primary anesthesia occurs, during which certain small rapid operations can be performed. Second stage: Is one of excitement. Patient tries

to remove the cone and to rise. Hallucinations are frequent. Vertigo, tinnitus, and deafness gradually followed by feeling of heaviness, and then pass into the third stage, in which all consciousness has ceased, the breathing is regular, and there may be snoring. The skin is moist and the face is red; the muscles are relaxed.

The amount used is not fixed, but one-half to one ounce is usually employed during the first two stages. Small quantities poured from time to time upon the inhaler are necessary to keep the patient under the influence of the anesthetic. Quickening of the pulse and respiration means overdose.

Contraindications.—All conditions tending to reduce the diameter of the trachea or the bronchial tubes, as goiter, asthma, bronchitis, and all kidney diseases.

The method of administration of oxygen and ether seems to be faulty; it is not proper to deliver oxygen through the bottle containing ether for the simple reason that to increase oxygen would mean to increase also ether. It may be used separately, so one can regulate the supply of ether, and on the other hand the supply of oxygen gas.

The After-effects of Anesthetics.—Vomiting during anesthesia may be arrested by compression of the phrenic nerve and vagus, applying compression with the thumb on the left side immediately above the sternal end of the clavicle. The hand is held flat on the thorax and the thumb is far over the clavicle. The after-effects are emotional insanity and acute mania following anesthesia. Wood claims that there is no relation between the mental derangement and the anesthetic; the coincident shock of the operation and the emotional strain preceding having probably caused the insanity.

Garrigues reports the case of an old lady who was under the influence of chloroform for one hour, who became insane after it. Buedinger reports nine cases of complete paralysis of right or left arm, accompanied by occular disturbance. In post-mortem examination softening of the brain in motor area has been found. The paralysis is due to the peripheral pressure. Neuritis is caused by pressing on the brachial plexus directly against the first rib when the arm is raised. Whether the paralysis is due to direct narcotic action on the tissue or to an ischemia of the brain is still unsettled.

Frankel reports a case of a patient who died eight days post-partum, following anesthesia, from pulmonary embolism. The case was fatty degeneration of the heart muscles. Matthews reported a case of chloroform anesthesia, duration forty minutes, used a little over two ounces of chloroform, for extracting the teeth; the patient was sent to an insane asylum for melancholia. Ether seems to produce no after-effects on the heart or at least not sufficient to cause death. In 65 ether anesthesias, Mikulicz observed four cases of acute bronchitis and two of pneumonia. The after-effects of both ether and chloroform upon the stomach are found to be nausea and vomiting. As a rule these are more frequent after ether. The changes which are produced by chloroform anesthesia in the liver are as follows: Fatty degeneration of the hepatic cells. Bastianelli reports three cases after chloroform anesthesia in which death occurred from three to ten days after the anesthetic was administered, with marked icterus, and delirium preceding death. Some authors claim that chloroform causes fatty degeneration in the renal epithelium. G. B. Wood claims that ether causes cloudy swelling of the renal epithelium. Upon the healthy kidney both ether and chloroform have distinct after-effects, and especially upon the diseased kidney. The ether causes fatal uremic coma, and even such changes have been ascertained after chloroform. Ether has no bad after-effects upon the heart and liver. Bromid of ethyl, or hydrobromate of ether, is an anesthetic prepared by combining bromin with alcohol in the presence of phosphorus; discover by Serullas. It is not inflammable, and is quickly eliminated from the system. While using this drug always see that you get bromid of ethyl and not bromid of ethylene, which causes nausea while inhaling. Bromid of ethyl cannot be used for prolonged operations, owing to its high volatility. Bromid of ethyl causes death by arresting the heart's action. It increases the dangers of hemorrhage. Bromid of ethyl very rapidly produces anesthesia, and after the administration suspended consciousness is quickly regained. The drug should be kept in a tightly-stopped colored glass bottle. A child can be given three drams, and an adult six drams. In administering ethyl bromid, the entire amount to be given is poured on a towel and the towel held closely to the mouth and nose, so as to exclude air. The moment the patient becomes unconscious,

the towel is removed and the operation is proceeded with. It will be unsafe to give more anesthetic, as stated above, because the administration of large amount of ethyl bromid will produce muscular contraction, rigidity of the jaw and irregular respiration.

Nitrous Oxid.—Many minor operations can be performed under the influence of this drug. Nitrous oxid can be given with oxygen gas, but this anesthetic is not handy for the general practitioner on account of the expensive apparatus to be used in its administration. Pure nitrous oxid causes muscular rigidity, but it does not cause rigidity when mixed with oxygen.

The Petroleum-Ether Mixture of Schleich for General Anesthesia.—We know that there is an intimate relation between the boiling point of the various narcotics and the temperature of the body, and, further, it is a known fact that narcotics with different boiling points act in different ways upon the organism. This anesthetic is a physical mixture, no new compound is formed; it is a mixture in which each part is taken out at the same boiling point. Schleich has laid great stress on the fact that the temperature of the body is constant and a substance whose boiling point is equal to that of the temperature will remain in the body without breaking up into its fractional parts. Weidig, of New York, proved that the chloroform is not free in the mixture, but that a certain amount of sulphuric ether is in its free state, and for that reason we are compelled to call the anesthetic a mixture. This is a molecular solution, and we must wait for clinical experience to demonstrate its superiority, and the relation of the boiling point to the temperature of the body will also be here adhered to, and the lower boiling point of petroleum-ether is used to attain the result. The free sulphuric ether in the original mixture offers a probable cause for the oft-noticed cyanosis.

Schleich divided the mixture in No. 1, 2 and 3; he always starts with No. 1 and rarely uses Nos. 2 or 3. The average time to induce secondary anesthesia was seven and a half minutes, and the average amount used was a half an ounce. Patients recovered consciousness in about twelve minutes. Randolph Ferris claims that Schleich's mixture for anesthesia consisted of three solutions, each solution being composed of three fluids, e. g., chloroform, petroleum-ether, and sulphuric ether. The difference in each solution was the number of parts used and the boiling point. Solution, No. 1: 45 parts chloroform, 15 parts petroleum-ether, and 180 parts sulphuric ether. The boiling point being 38 degrees C. Solution No. 2: 45 parts chloroform, 15 parts of petroluem-ether, 150 parts sulphuric ether; boiling point being 40 degrees C. Solution No. 3: 30 parts chloroform, 15 parts petroleum-ether, 80 parts of sulphuric ether; boiling point being 42 degrees C. The method of administration is that of chloroform. A number of cases have been reported in which unfavorable effect has been noted.

Local Anesthesia.—Freezing mixture to be used only when a simple incision is to be made, but local anesthesia cannot be used in very nervous individuals. Before using local anesthesia, take into consideration the nature of operation and the temperament of the patient.

Alcohol.—Ten degrees below freezing point deprives the sense of pain, but not of tactile sensibility. Sodium sulphate and commercial hydrochloric acid is a powerful frigorific mixture. Methyl chlorid: by spraying this liquid upon the skin or mucous membrane, a frigorfic action is produced. It is painful before and after anesthesia, and is apt to devitalize the tissue.

Rhigolene—Bigelow.—One of the products of the distillation of petroleum is used as a spray, but is painful before and after anesthesia. Ether in fine spray, also painful, is refrigerant through rapid evaporation. Ethyl chlorid is put up in glass tubes with a screw cap at the end; the cap is removed and the warmth of the hand will produce a spray. It is convenient, but expensive, and in using this great care must be exercised to avoid too extensive reaction or sloughing will result. Guaicol has been used by some as a local anesthetic, but the investigations showed it of no practical value.

Cocain is an alkaloid obtained from the leaves of erythroxylin coca. Gaudecki in 1853 isolated cocain, and its local anesthetic properties were recognized by him. After Gaudecki came Niemann, who is credited with being the discoverer of cocain, but this was seven years after Gaudecki; therefore the credit belonged to the first, and not to the second.

Cornig of New York demonstrated the

fact that solution of cocain injected into the tissue in close proximity to the trunk of sensory nerve would produce local anesthesia in the area of its distribution. Bier of Kiel introduced a method of producing anesthesia by introduction of cocain solution into vertebral canal. Both these methods are impracticable.

Injection of Cocain.—Use a fine needle, insert it into the skin nearly parallel with the surface, until the beveled part is buried, when a few drops of the fluid are deposited. The needle is then withdrawn and reinserted within the wheel near its margin, pushed down to the papillary layer, another wheel is produced, and so on; then if required the needle is inserted through the anesthetized area into the deeper tissue, as muscles and fascia.

Hypodermic injection of cocain is dangerous in inflamed and infected areas, as it might cause general infection. To produce the analgesia of the mucous membrane, brush or hold a piece of cotton, wet in 2 or 4 per cent of cocain solution, against it for a few minutes. To produce analgesia of the urethra, use one drachm to two drachms of 1 per cent solution injected and allowed to remain from two to five minutes. Cocain may be used by the electrode, that is, having cocain solution, 4 per cent, soak a pledget of cotton or a few pieces of filter paper, and lay this on the skin which you want to anesthetize; cover this with the positive pole, and put the negative pole on the neck; then turn on the electricity. You can use fifteen milliamperes for ten minutes or five milliamperes for fifteen minutes. The toxic effects of cocain muriate are manifested by headache, pallor, cold, moist skin, fever, slow pulse, incoherent speech, nausea, vomiting, epileptiform attacks, and dilated pupils, dyspnea and asphyxia. To treat these put the patient in the recumbent posture, use ammonia, spirits frumenti, hypodermic injection of ether, and artificial respiration.

Schleich describes a method of producing local anesthesia by the injection of the anesthetic fluid beneath the skin. By injecting endermically and hypodermically pure water, an aqueous solution of various substances, as cocain 1-5000, morphine 1-5000, and so forth, and sodium chlorid 1-5000. I tried Schleich's method on my own patients with results that would not justify me in recommending it to others. The result he obtains is produced by ischemia due to compression of the vessels, by pressure of the tissue proper, notably on the nerves; by the temperature of the fluid being lower than that of the body; and by direct chemic alteration of the nerve substance. To preserve cocain solution, use salicylic acid, 2 grains to one ounce, or you may use 1-10 grains to two ounces corrosive sublimate.

Eucain is a name for methyl-benzoyetetramethyl-oxipiperidinecarbonic acid methyl-ester, which chemically resembles cocain; it it soluble in water 10 per cent, at 70 degrees F. It has the advantage over the cocain that it can be boiled without any change, and can therefore be sterilized by means of heat. Physiological action of eucain injected hypodermically produces complete insensibility of the locality injected. By painting the mucous membrane with eucain solution it produces complete local anesthesia. Small doses increase reflex excitability; large toxic doses produce unconsciousness, dyspnea, and eventually paresis, especially in the lower extremities. Eucain is not as powerful as cocain, but the strength of the solution can be fixed accordingly. Eucain is not as toxic as cocain, and eucain slackens the pulse; cocain increases it. Eucain causes vascular dilatation, cocain contraction. Eucain produces no mydriasis. The reaction to the light remains normal, and the accommodation is unaffected. Cocain induces mydriasis and paralysis of accommodation; eucain excites the vagus; cocain paralyzes. The action of eucain is slower and less intense than the cocain.

Eucain is not a mydriatic and does not produce corneal disturbances, though a slight irritant. This can be avoided by first using a drop of 1 per cent, then waiting a few minutes, then use 2 per cent. The solution of eucain "B" is made as follows: Eucain "B," 0.1; common salt, 0.8; water, 100. This can be boiled as often as desired without undergoing decomposition. A combination of equal parts of eucain and cocain overcomes the drawback of either substance and makes a good local anesthetic. Eucain has been used quite extensively for extracting the teeth.

Some Demonstrations in Proctoscopy.*

By J. Rawson Pennington, M. D.
Professor of Rectal Diseases, Chicago Clinical School; Surgeon-in-Chief, Good Samaritan Hospital for Fistula and Other Diseases of the Rectum; Consulting Surgeon, Mary Thompson Hospital for Women and Children, etc., Chicago.

Gentlemen:—Without unduly estimating the class of diseases to which I have given more or less special study for a number of years, it seems to me that there are none in which an early and accurate diagnosis is of so great importance to the patient as those of the rectum. In constitutional and self-limited diseases, a tentative course until the true nature of the trouble has been determined is not likely to be detrimental to the patient. On the contrary, however, it cannot be gainsaid that in rectal diseases delays are often dangerous. What seems to be a very trivial and simple ailment may soon become a very serious and dangerous one; especially is this true of perirectal abscesses, fecal impaction, some forms of prolapse, malignant neoplasms and thrombotic hemorrhoids.

This, I assure you, is no idle talk. I have seen formidable and disastrous results follow symptomatic treatment in each and every one of the conditions mentioned. To make a satisfactory, painless and complete proctoscopic examination, it is absolutely necessary to take advantage of atmospheric pressure and to be provided with special instruments designed for the purpose. The advantages of atmospheric pressure are obtained by maintaining the patient in the Martin, extensive Sims', or knee-chest position. The instruments necessary for this inspection are (Fig. 1) a set of tubular rectal speculæ of various lengths and diameters.

The anoscope I show you is conical in shape, being 21 mm. in diameter at the distal end and 30 mm. at the junction of the flange and cylinder. Its cylinder is 5 centimeters long; that of the proctoscope 12 centimeters. The sigmoidoscope 20 centimeters, and the long sigmoidoscope 30 centimeters.

The latter instruments have a common diameter. The distinctive features of my speculæ are the cap (c) and the tube (t) for connecting the insufflator (i). When the speculum is introduced and the atmospheric pressure does not dilate the bowel sufficiently, the cap (c) is screwed on the flange, the insufflator attached and the bowel ballooned. Then looking through the glass window by means of reflected light or the electric light, as you see in the tube, you can command a complete view of the rectal wall. Here is a proctoscopic (Fig. 2) hook for testing the elasticity of the valves. This (Fig. 3) is a proctoscopic mirror and is used for examining the upper surfaces of the rectal valves. (Requesting the patient to be arranged upon the operating chair.)

The patient now being arranged in the correct position (Fig. 4) for inspection of the external parts and a digital and anoscopic examination, the first step in the examination is the bimanual eversion of the buttocks and an inspection of the field. In doing this note the shape of the anus, whether normal, protruding, retracted, contracted or dilated. Then, the color, whether normal, white, or red, or whether excoriated, moist, dry, or brittle, smooth or swollen; also palpate the pelvic floor externally (illustrating). The next step is a careful, thorough and complete inspection of each anal quadrant. This is followed by a digital examination of the anus. Before introducing the finger into the bowel, place a finger-cot over it thus (illustrating), and lubricate it well with vaseline. As the finger is introduced, study the conditions of the sphincteric zone.

A spasmodic twitching sphincter indicates acute disease near the margin of the anus. A protracted, firm resistance indicates a chronic condition. When the ectal sphincter is relaxed and flaccid, suspect exhausting local or constitutional disease. In this zone you will also feel the columns of Glisson, the crypts of Morgagni, ulcerations, neoplasms, internal fistulous openings and any other conditions that may exist. At this stage of the examination you should also palpate the pelvic floor between the thumb and index finger. As the finger passes above the levator ani zone, it may de-

*A Clinical Demonstration before the Chicago Medical Society, Oct. 25, 1899.

tect strictures, displaced and diseased uteri and adnexæ, enlarged and inflamed prostate, anoscope. It being well anointed, the end is placed against the external sphincter, and

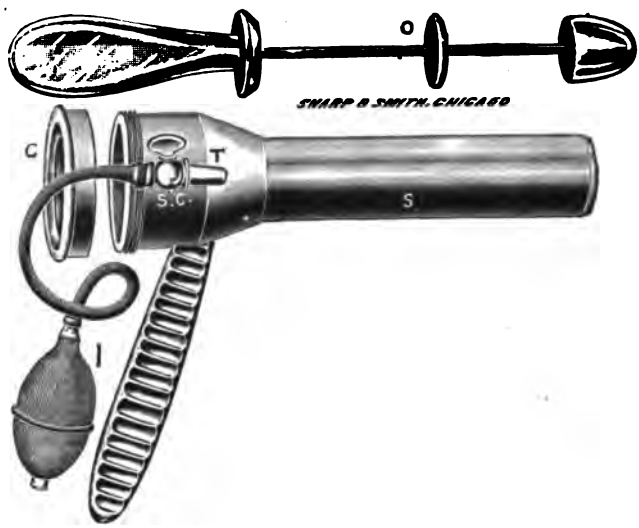

Fig. 1.

stone in the bladder, fecal impaction, and in some instances may be made to hook over the patient required to bear down. This expands the ectal sphincter, relaxes the lev-

Fig. 2.

the lowermost rectal valve. This examination should be conducted both when the patient is relaxed and again when bearing down.

ator ani, thins the pelvic floor, and dilates the internal sphincter, which permits of an

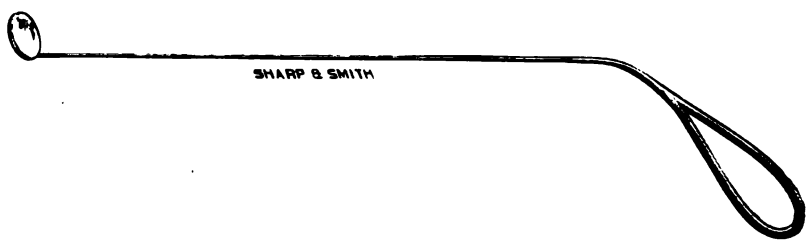

Fig. 3.

The next step is the introduction of the easy and painless introduction of the instrument. The anoscope introduced, the obturator is removed, and the inspection made.

Fig. 4.

Fig. 5.

The next step requires artificial light, and that the patient be previously placed in the proctoscopic position (Fig. 5) so as to gain

Fig .6—Diagrammatic View Illustrating Houston's Valves and the Valve Straits From a Direct View Through the Speculum.

the advantages of atmospheric pressure. The proctoscope is now introduced; the withdrawal of the obturator is followed by more or less atmospheric inflation of the rectum. I usually remove the obturator as soon as the speculum has entered the first chamber of the rectum. I find that the manipulation and further introduction of the instrument and the inspection and examination are more satisfactory with the obturator removed after the speculum has passed the sphincter zones. We now observe the degree of rectal distension, the number of rectal valves and their relation to each other. (Fig. 6) Diagramatic view illustrating Houston's valves and the valve straits from a direct view through the speculum. (Fig. 7) Diagramatic sectional view, showing the valves.—Martin. These are organs which you know are said not to exist, and it has also been stated that if they do exist, why is it that they cannot be found in the dissecting room subject? To prove to you that they can and are, I have the pleasure, through the kindness of Prof. W. T. Eckley, of showing you and demonstrating the existence of the rectal valves in this specimen, obtained by him from the dissecting room. By means of the protoscope or other instrument, each valve in regular order should be effaced and each rectal chamber carefully inspected. Then by means of the proctoscopic mirror the upper surface of each valve should also be inspected. For this method of inspection and examination we are indebted more especially to Dr. T. C. Martin.

I have now presented you a very brief and hurried outline of a method of inspecting and examining the rectum, which, if practiced, I am sure there need no longer remain any excuse for saying that the patient is suffering from an obscure rectal ailment. The instruments which I have just shown you were made for me by Sharp & Smith of Chicago.

Columbus Memorial Building.

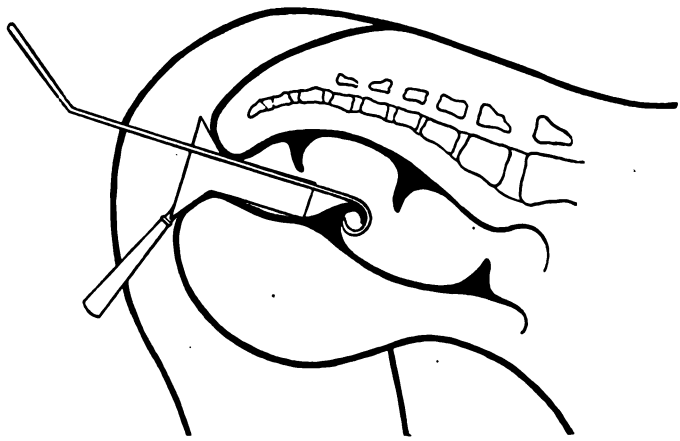

Fig. 7—Diagrammatic Sectional View Showing the Valves—Martin.

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SENSATIONAL JOURNALISM.

It is a matter of regret that the daily papers of this city publish from time to time sensational articles of such a nature as to render more difficult the work of the public vaccinators. If death or serious illness from someone's carelessness results in a single case, it is placed before the public in its worst possible phase. Prominent headlines and voluminous detail attract especial attention to it.

When we remember the thousands upon thousands of school children vaccinated each year without any untoward happening, we shall see that the per cent. of cases that result otherwise than well is very, very small indeed. And in the case that does not result well, the blame should usually not attach to the vaccinator, nor to the compulsory statute in force.

If people would use cleanliness, care and common sense, there would be no ill results from vaccination. If they could only be taught to keep the vaccinated arm clean, and the sleeve clean that covers it, and in all other ways to let it alone, there would be no trouble.

The law is a good one. The Board of Health is enforcing the law in a careful and conscientious manner. The vaccinators are carefully selected. The vaccine virus furnished is perfect. Every endeavor is made to serve the public good, even though that public is a very unthankful one.

The people want the news, and the newspaper that subserves that want is acting within its legitimate sphere. But its information should be derived from trustworthy sources, and it should not reflect the unreasonable criticisms of an ignorant and inflammable public. In this matter information should be obtained from the Board of Health. Dr. Spaulding, who is chief of the department of contagious diseases, will give the exact facts in the case. To this much is the public entitled and to no more.

R. S. M.

THE LIFE OF GEN. FORREST, BY DR. WYETH.

We all know Dr. Wyeth, the surgeon who originated the bloodless amputation of the hip joint, author of a text-book on surgery, who commands as large a post-graduate audience as any man in New York City. Genial, kind, conservative, yet bold; an easy, fluent, but terse lecturer; he secures the confidence of his patient and the admiration of his listeners.

During the civil war Dr. Wyeth was a surgeon in the Confederate army and served with distinction throughout that memorable struggle. After the fall of the Confederacy and the cause he had espoused, he went abroad and practiced his profession for some years in Berlin. But the doctor loved the "piney woods of Georgia" and the "red mud of Virginia," as he is wont to say, and could no longer endure that an ocean should divide him from the land of his nativity. So the nation's flag received him in its forgiving folds.

The doctor has written numerous magazine articles pertaining to our late unpleasantness. He was bitterly criticised some years ago for asserting that Confederate prisoners of war, confined at certain loca-

tions that he named, were treated no better, or but little better, than Union prisoners at Libby and Andersonville.

This last literary effort, the "Life of Gen. Forrest," is a credit to the doctor, and through him to the profession of which he is a member. So far as we are able to judge, it is written in a spirit of fairness and impartiality, especially considering the fact that it is written by one who shared in the events narrated. The power of description and literary skill evinced are beyond question. The old soldiers who took part in the campaigns here described, upon reading this book, will live over again those old days that were filled with war's alarms. We congratulate the doctor upon his success as an author. R. S. M.

WHY DOES HE SEE "SNAKES?"

The poor convivial wretch who worships at the shrine of Bacchus, until he develops a case of the "jim jams" is to be pitied indeed. But very little sympathy does he get. He has sown to the wind and must reap the whirlwind. In the long hours of the night he is surrounded and pursued by fearful phantasms, snakes, beings of every horrible shape, that upon vanishing only give place to something worse. Far better than any temperance lecture is one look at that face of indescribable agony.

As a matter of fact the victim of *mania a' potu* does not always have illusions that are unpleasant, but he usually does so. And while his unpleasant imaginings are varied, the one thing that he is more likely to see than anything else is "snakes."

Why have we a natural antipathy toward snakes? All of them are pretty; most of them are harmless. Yet there is nothing so abhorrent to the average person.

Monkeys show this natural fear of reptiles in a high degree. Darwin observed that a paper sack containing a small harmless snake, given to a monkey in the zoölogical garden, frightened him out of his wits. The monkey recognized his natural enemy—the one thing that most endangered his existence in his native forest.

When Dr. S. Weir Mitchell conducted his experiments upon snake venom some years ago, he caused the snake to bite a dish or saucer, from which the venom could afterward be collected. It was found that after the head was severed, the body would still spring forward and strike with the bloody stump. Among the assistants but one could allow himself to be struck by that stump—and he acknowledged afterward that he "shut his eyes."

The idea that higher forms of life have originated from lower forms, by a process of evolution, is accepted universally by medical men to-day. Man is only a link in the chain of all created things. Our relationship to the lower animals is undisputed. It is shown by our vestigal organs. as the vermiform appendix and the rudimentary tail; by the nictitating membrane or third eyelid; by anomalous muscular arrangement. It is shown by atavism, or a reversion of an organ or tissue to a former type, as the occasional appearance of a supernumerary nipple; or of a cervical auricle; of bronchial fistula; and in many other ways that will suggest themselves to comparative anatomists.

Instinct is only inherited reason. May we not have laid up in that mysterious receptacle of past impressions and instincts—the brain—instincts of our very remote ancestors? May not their instincts crop out by a process of reversion at times, just as do their physical peculiarities? There was a time when reptiles and the wild denizens of forest and plain were the natural enemies of our embryotic race. Mental impressions and instincts acquired in that struggle for existence of ages ago occasionally show themselves. This explains the underlying current of superstition inherent in most people.

The delusions of the alcoholic are auditory or visual—usually visual; and when he sees "snakes" is he not going back in the

dim past to a time when his remote progenitors battled for existence with reptilian enemies? Back to the cave men—to the age of stone—to the infancy of the race?

"There are more things in heaven and earth, Horatio,
Than are dreamt of in your philosophy.".

R. S. M.

YELLOW FEVER.

Surgeon Wardin and Past Assistant Surgeon H. D. Geddings, who have been studying yellow fever, by government appointment, for the past year or more, at New Orleans and Havana, have completed their investigations and have reported that:

The micro-organism discovered by Sanarelli and named by him "bacillus icteroides" is the cause of yellow fever

That the bacillus "X" of Sternberg may be found in yellow fever cases, but that it is also found in normal subjects, and is not the causative agent

That primary infection takes place by way of the respiratory tract, and is responsible for the earlier symptoms; and that in most cases secondary infection or colonization occurs in the blood. They also confirm what has been previously observed, that the bacillus is very susceptible to adverse influences and easily destroyed. They also note that the toxin generated by the bacillus icteroides either in cultum media or the human body is an exceedingly virulent one. This last observation is certainly borne out by the clinical features of yellow fever cases.

R. S. M.

THE CRIMINAL ELEMENT.

Students of criminology tell us that the criminal element is increasing, in proportion, more rapidly than the law-abiding part of the population. If this is true—and there is no reason to doubt it—it is a very serious state of affairs. Something should be done. But what? It is well known that the child of a thief is a thief, usually. Criminals beget criminals. Character traits are hereditary just as are physical peculiarities. Apropos of the subject note the following:

"Mount Vernon, Ill., Nov. 1.—Desmond Boyd, alias Reaves, who was sentenced to the penitentiary last week for horse-stealing, and Miss Ida Newcome, his sweetheart, who held the Richview officer at bay with a revolver until her lover could make his escape, were married in the county clerk's office this morning, Squire S. D. Cooper officiating. The bride, who gave her home as Ardeola, Mo., arrived here last night. After the ceremony Sheriff Manion departed for Chester penitentiary, where Boyd will serve an indeterminate sentence."

So long as the law permits, or public sentiment tolerates, marriage on the part of such persons as the above, so long will the problem of dealing with the criminal class become the more difficult of solution.

Do not allow criminals to marry. Stop the procreation of habitual criminals. Emasculate the males. And the females—well, turn them over to the gynecologists, This may seem a drastic measure, but "self-preservation is the first law of nature," and society can protect itself in no other way.

R. S. M.

TO PREVENT THE SPREAD OF TUBERCULOSIS.

With careful painstaking industry the etiology of tuberculosis has been studied out. We, as physicians, know what to do to limit its ravages or possibly to eradicate it. This is all well enough in theory; but in order that the human race may profit by this knowledge we must be practical. People should be instructed as to the nature of tuberculosis and the means by which it is disseminated—in a knowledge of the laws, growth and development of the causative agent. This knowledge to be of practical benefit must be communicated to the masses in such a way as to fully impress them with its importance.

Dr. C. O. Probst of the Ohio State Board of Health has instituted a means by which this work can be advanced in Ohio. Under the auspices of the "State Board of Agri-

culture" a series of "farmer's institutes" is held each winter. These institutes meet in the principal towns in the state and the session lasts two days. There will be some two hundred and fifty such meetings. At these institutes farmers and others meet to discuss matters pertaining to the agricultural interest. The meetings are largely attended by a very intelligent class of people.

Dr. Probst proposes to have a representative at each of the meetings to elucidate the subject of tuberculosis as affecting the cattle industry. He outlines the direction he wishes the discussion to take as follows:

"1. The extent to which the disease is prevalent in man and animals.

"2. A brief statement of the cause of tuberculosis, and of the identity of this cause in man and animals.

"3. The means by which the disease is communicated from animal to animal, and from animals to man through flesh and milk.

"4. The influence of stabling in favoring spread of disease.

"And here we would make prominent the comparative freedom from tuberculosis of animals constantly in the open air; the reverse fact that by confining animals in unventilated, dark stables, the best possible conditions are furnished for propagating the disease; the action of light in destroying the germs of tuberculosis; and the effect of breathing vitiated air in producing a condition of the lungs and system inviting the growth of the germ when taken into the body.

"5. The nature of the tuberculin test should be pointed out; and how, by separating reacting animals from those which do not react, and by removing at birth calves from infected mothers, it is possible to prevent the spread of tuberculosis in dairy herds.

"6. It might be well to refer to the increasing public demand for protection against meat and dairy products from tuberculous animals, and the necessity in the interest of all concerned of some well considered legislation for the control of this most serious injury to both the public health and agricultural interests.

"Other points relating to the prevention of tuberculosis in animals will present themselves to you; and it is not our intention to strictly limit the scope of the discussion. The points suggested, however, cover, as we regard it, the essential features of the subject that would be best suited for the meetings held in view. The central idea of it all is to present arguments to convince the cattle owners that the prevention of tuberculosis among their animals is a matter of self-interest; and to show them that it is possible to prevent or very materially lessen the disease by means within easy reach."

Dr. Probst is relying upon volunteers, from among the physicians of the state, to bring this matter before the different institutes, as a favor to the state board.

The undertaking is a commendable one and should meet with the hearty co-operation of the profession. R. S. M.

FLUID VACCINE.

Fluid vaccine virus put up in small glass tubes, each tube containing a sufficient quantity for one vaccination, is displacing all other vaccine preparations. It is more trustworthy and reliable in every way than the ivory point or the crust. Our enterprising friends, Parke, Davis & Co., will issue an illustrated article in their forthcoming number of Therapeutic Notes, detailing their method of propagating and testing this product. This article will be of interest to our readers. R. S. M.

INTERNAL MEDICINE.

Under the direction of JEROME H. SALISBURY, A. M., M. D., Professor of Internal Medicine, Chicago Clinical School; Assistant Professor of Medicine and Chemistry, Rush Medical College.

Local Non-Surgical Treatment of the Intestine in Typhoid Fever.

Delancey Rochester (Philadelphia Medical Journal, Nov. 4, 1899) considers two questions in reference to this subject. First, is it desirable to treat the intestine locally in typhoid fever? Second, is such treatment possible? He concludes that since the gastro-intestinal canal is inflamed in this disease its local treatment is desirable as an adjuvant to other plans of treatment, but not as a substitute for them. In reply to the second question he points out that the mouth and rectum and colon can be treated locally and the stomach can be treated by lavage in suitable cases. The small intestine can only be reached locally by means of drugs administered by the mouth. He cites some unfavorable experiences with benzoate of guaiacol, and agrees in the conclusion of Dr. H. A. West of Galveston "that there is no evidence to prove the potency of any medicine for the destruction of the pathogenic agent in the intestinal canal when given in doses which would not be toxic to the infected person."

The mouth should be kept clean, for which he recommends a mixture of phosphoric acid, lemon juice, glycerin and water. This is applied by swab or spray. Spraying nose twice daily with an alkaline solution is useful. He recommends lavage of the stomach in case of persistent nausea or vomiting.

For diet, he recommends milk partially or completely peptonized, according to the evidence of digestion afforded by the appearance of curds in the stools. The milk may be diluted with plain or carbonated water, and the bitterness of the completely peptonized milk may be completely overcome by the addition of 15 to 30 c. c. of strained orange juice to 150 to 200 c. c. of milk. If such measures fail to relieve nausea, he withholds food from the stomach for from 12 to 24 hours and administers minute doses of calomel and cerium oxalate.

He recommends distilled water. [Attention may here be called to recent observations indicating that distilled water is injurious to the stomach mucous membrane. The use of water containing a small amount of salts or the addition of such salts to distilled water would be preferable to the use of plain distilled water.—Ed.] Occasional administration of calomel is useful in securing a proper condition of the small intestine. In the author's experience, cases do better which have a moderate amount of diarrhea. Of equal importance with the care of the mouth and stomach and the regulation of the diet is the daily or twice daily washing of the colon.

For the purpose of the colon wash a soft rubber colon tube is used, and 2000 to 5000 c. c. of boiled water, plain or holding in solution either boric acid or borax or common salt, is allowed to moderately distend the colon and then flow out. If the temperature of the patient is very high this wash may be used ice-cold with excellent results.

Intestinal Antiseptics in Typhoid Fever.

M. M. Pearson (Therapeutic Gazette, Oct. 15, 1899) maintains that the value of these agents must be settled by the clinician and not by the chemist, because drugs act differently in the living body than they do in the laboratory. Various forms of antiseptic treatment have been tried and abandoned. At the present day there is not a teacher of practice in any of the reputable schools, or hospitals of like standing, or a reputable author, who vouches for the so-called antiseptic treatment in typhoid. Antiseptics are not likely to be active in the intestinal canal, because they become diluted too greatly or else are absorbed before they reach the point where their antiseptic action is to be exerted, or they are liable to suffer chemical changes which render them inert. Lastly, the treatment is not theoretically rational, because the disease is a systemic one, and the bacilli are widely distributed throughout the system and cannot be reached by intestinal antiseptics. [These

positions are well taken so far as the essential germ of typhoid fever is concerned, and it is undoubtedly true that many intestinal antiseptics are inefficient; but it is also undoubtedly true that in typhoid fever there is often profound intoxication of the organism by the absorption of poisons from the intestinal canal, part of which are probably produced by other germs than the typhoid bacillus. It is evident, that, if in this condition putrefaction in the intestine could be prevented without injury to the patient, a great gain in therapeutics would be secured. The use of intestinal antiseptics in typhoid should not be regarded as the sole plan of treatment, but should be reserved as the remedy against the formation and absorption of the products of intestinal putrefaction, and search should be made for more perfect remedies and methods to effect this object.—Ed.].

Palatable Quinine Mixture for Children.

W. J. Greanelle (N. Y. Med. Jour., Oct. 28, 1899) recommends the following:

(1) ℞ Quinine hydrochlorate gr. v—gr. x; alchol ʒj.—M.

(2) ℞ Oil of cinnamon, m.xxx—xl.
Oil of anise, m.xxx—xl.
Magnesia, q.s.
Water, ʒi.
M. Let stand for some hours; filter.

(3) Mix (1) and (2) and add—
Simple syrup, ʒiij.
Carmin or cochineal solution, gtt. v.
Dose, one or two drachms as desired.

In the author's experience children cry for it. It may be given as a bribe to secure the taking of a stronger quinine solution when that is necessary.

Early Diagnosis of Cancer of the Stomach.

(J. C. Hemmeter, Med. Record, Oct. 21, 1899.) Diagnosis of a cancer cannot be counted early if a tumor can be demonstrated. Hemmeter agrees with the expression of an American surgeon who says, "I believe the time will come when carcinoma of the stomach will fall in line with carcinoma of the breast, of the rectum, of the uterus, and the early and complete operation will add new laurels to the crown of surgery by many permanent cures." Statistics seem to show greater prevalence of cancer with increasing civilization and luxury. They show gastric cancer to make up about 41 per cent. of all cancer cases, and from one to two per cent. of all deaths. Three-fourths of these cases occur between the ages of 40 and 70. It may, however, be congenital and sometimes occurs in childhood. The factor of age should, however, be used with the greatest caution. "There is nothing characteristic in the subjective symptoms. When both openings of the stomach are free there may be no vomiting. In 75 per cent. there is constipation, in 20 per cent. diarrhea, and in 5 per cent. the bowels are regular. No certain indications can be drawn from the presence or absence of hydrochloric acid. In some cases free HCl. may persist until death. Absence is no certain indication, as there are other diseases in which it may be absent. No reliance can be placed upon this sign, except after repeated examinations. Lactic acid is the product of the action of bacilli on the carbohydrates; it is therefore liable to appear in any stomach unless a special test meal be given, such as Boas' (oatmeal one ounce, boiled in a quart of water, evaporated down to one pint, and seasoned with salt only).

"Three conditions are necessary to the excessive presence of lactic acid (I might say four). These are: (1) Impaired gastric motility; (2) absence of HCl. secretion; (3) reduction of albumin digestion, and I should add (4) impaired absorption." In gastric cancer we have the conditions favorable to the excessive formation of lactic acid. It occurs in about 80 per cent. of the cases. The microscopic examination of the vomit, stomach contents or of scrapings of the mucous membrane, procured by curettage of the empty stomach by a soft tube, may show (a) characteristic nests of cells, or (b) cells undergoing karyokinesis, especially showing equatorial plates, monaster, and anaphase forms, (c) bacilli very long, non-motile, thickened at one end, known as Oppler-Boas bacillus; (a) is, of course, absolutely diagnostic, while (b) and (c) are very characteristic of cancer. Tests will usually show the motility and absorptive power of the stomach reduced. Gastroscopy and transillumination afford at present no sure guide to diagnosis; the same, in the author's opinion, may be said of the X-ray diagnosis.

Exploratory Laparotomy.—The author says: "This diagnostic incision I would warmly recommend in all cases of gastric disease associated with (1) rapid emacia-

tion; (2) absence of free HCl.; (3) reduction of proteid digestion under 30 per cent; (4) presence of lactic acid by Uffelman's test, or (5) of numerous long, baseball bat-shaped Oppler-Boas' bacilli. If all of the above signs and symptoms are present in any case, even of short standing and of recent beginning of the disease, and no improvement follows three weeks of appropriate treatment, I should feel justified in making a diagnosis of carcinoma of the stomach, even in the absence of tumor, and should urge an exploratory laparotomy."

Treatment of Anterior Poliomyelitis.

Prof. H. M. Lyman (Clinical Review, Oct., 1899), gives for young children a solution of antipyrine and tincture of aconite in doses according to the age of the patient. The bowels should be emptied with calomel in doses of one-tenth of a grain every hour. If the alimentary canal is overloaded a full dose of castor oil is useful. After this give for pain and restlessness small doses of phosphate of codeine. Baths and sponging may be given if agreeable to the patient, but should be discontinued if they cause excitement or resistance. The acute stage seldom lasts less than a week, or more than two.

In convalescence give good food, small doses of strychnin and arsenic, and daily hot baths to the affected limb, followed by massage. Whenever possible, electricity should be used for about ten minutes every day, selecting a current of such a nature as will excite muscular contractions—the faradic, if that is effectual, if not, the slowly interrupted galvanic current. The positive pole may be placed over the paralyzed muscles, while the negative rests on the sacrum. After an interval of three minutes the direction of the current should be reversed. If in this way a contraction can be excited, there is hope. It must be confessed that many cases appear to make just as good progress without electricity as with it; so that, when poor people object to such expensive treatment, one need feel no compunction in resigning them to such friction and massage as the mother or nurse can give. The natural tendency of the disease is to recovery. Whatever impairment of locomotion exists at the end of two years will be permanent, or may increase with the development of deformity in the affected limb. Such cases should be entrusted to the orthopedic surgeon.

The Newer Pathology of Epilepsy.

D. R. Brower (Medicine, September, 1899), the author, reviews the theories of medullary and cortical origin of epilepsy and then states Haig's theory that the excitation of the nervous centers is due to the retention of uric acid in the blood as shown by the lessened excretion of this substance before the attack and the increased elimination of it afterwards. He then calls attention to the studies of Dr. N. Krainsky (Alienist and Neurologist, Oct. 1896), who showed that the blood of patients in the status epilepticus is capable of exciting convulsive seizures when injected into rabbits, while the blood of the same patients after the attack produces no effect. He concludes that the toxic agent is ammonium carbamate $CONH_2ONH_4$. The bromides, he thinks, are useful because they decompose ammonium carbamate into potassium or sodium carbamate and ammonium bromide, which are harmless. This theory leads Dr. Brower to the practical conclusion that nitrogenous food should be restricted and the condition of the alimentary canal carefully inquired into.

Heroin.

Max Einhorn (Phil. Med. Jour., Oct. 28, 1899) highly recommends heroin for relief of cough and pain in the chest or elsewhere. He has never seen any bad effects from it. He uses the following formula:

℞ Heroin, 0.005.
Sacch. alb., 0.3.
Ft. pulv. d.t.d. No. XIV S. one powder twice daily.

or, Heroin mur., 0.075.
Aq. dest., 60.0.
D. S.—One teaspoonful twice daily.

Excretion of Uric Acid in Gout.

Dr. Leopold Badt (Zeit. f. Klin. Med.) gives the results of his investigations on the excretion of uric acid during the paroxysms of acute gout. Five cases were investigated, with the result that the quantity of urine was in all cases but one, normal, or more than normal, and the amount of uric acid was in all cases either normal or increased. The results agree with the author's former investigations and with those of Pfeiffer. Garrod founded his theory of gout upon three propositions, which were as follows:

(1) In gout there is a diminution in the uric acid excreted by the kidneys; (2) there is an increase of the uric acid in the blood; (3) the alkalinity of the blood is decreased. Magnus Levy has shown that the two latter propositions cannot be sustained, as by investigation of 17 cases he found that the uric acid of the blood was not increased, and the alkalinity of the blood was not diminished. Badt thinks that there may be an increase of uric acid about the joints, and therefore massage and the use of mineral waters serve a useful purpose for the elimination of the uric acid deposited about the joints.

Cause of Summer Diarrhea.

H. Poole Berry (London Lancet, Oct. 21, 1899) suggests that the unknown organism causing this disease finds its habitat in the heated superficial soil, and is perhaps conveyed to its victims by winged insects.

A Textbook of Materia Medica, Therapeutics and Pharmacology.

By George Frank Butler, Ph.G., M. D., Professor of Materia Medica and Clinical Medicine in the College of Physicians and Surgeons, Medical Department of the University of Illinois; Professor of General Medicine and Diseases of the Digestive System Chicago Clinical School, etc. Third Edition, thoroughly revised. W. B. Saunders, Philadelphia.

Prof. Butler's work has won a deservedly high position in the esteem of the medical profession of the United States, which is fully sustained by the present revision.

Whether the classification used will be finally adopted as the best from a scientific point of view may be questioned, but it is better than the alphabetic plan adopted by some eminent authors, and from its practical character it is likely to be very serviceable to the student. The introduction of the Latin Genitive of official names is a commendable feature, which may make possible a correct use of Latin, in which respect the profession of this country has been sadly wanting. Not less important is the section of the book treating of the pharmaceutical preparations. For this work Professor Butler is especially qualified by previous experience.

The statements of therapeutic indications are very clear and practical, and form one of the conspicuous excellencies of the book.

Essentials of Medical Chemistry.

By Lawrence Wolff, M. D. Fifth Edition thoroughly revised, by Smith Ely Jeliffe, M. D., Ph. D. W. B. Saunders.

This book forms No. 4 of Saunders' series of question compounds. Aside from its usefulness to the student in his daily work it may well find a place on the table of the practitioner, where its service will be to give a concise answer to the many questions in connection with chemistry and physics which must arise from his reading and clinical observation. In the present edition the chapters relating to organic chemistry have been considerably modified and enlarged. One is impressed, however, with the feeling that they rather inadequately represent the present state of this important branch of the subject. This criticism applies not so much to what is said as what is left unsaid, a fault that is largely necessitated by the size of the book.

A Textbook of the Practice of Medicine.

By James M. Anders, M. D., Ph. D., L.L.D. Third Edition, revised. Philadelphia, W. B. Saunders.

The third edition of this valuable textbook comes before us thoroughly revised with several new articles, and the old ones in many cases rewritten and in all brought fully up to date. The most notable changes are seen in the section treating of infectious diseases, in which modern research has so greatly enriched pathology. In this connection we find acute rheumatism assuming a position in this class to which it undoubtedly belongs, but its congener, gout, is still retained among the constitutional diseases. In regard to the latter disease there seems to be a hesitancy in stating the results of recent research, which render untenable the theories of Garrod, Haig and others.

A notable feature of the work is the excellent classification of the symptoms, diagnostic criteria, and therapeutic indications. This classification is made more effective by special headings and italics. This feature is especially to be commended for the use of the student and it also enhances the value of the work to the practitioner who would grasp the salient points of a subject in a short time.

The book is well illustrated by a large number of wood cuts, and several full-page plates. Typography and binding sustain the reputation of the well-known publisher.

SURGERY.

Under the direction of FRANCIS R. SHERWOOD, M. D., Professor of Surgery, Chicago Clinical School; Professor of Anatomy, College of Physicians and Surgeons (Medical Department University of Illinois).

Acute Abdominal Symptoms Demanding Immediate Surgical Intervention.

In the Boston Medical and Surgical Journal, October 19, 26, and November 2, 1899, Morris H. Richardson, M. D., discusses the above subject. The paper is of special importance, because it interests the general practitioner and the surgeon alike. He says:

The initial symptoms which attend abdominal emergencies are first observed by the general practitioner, and must be interpreted by him. Acute abdominal lesions still possess a deplorable mortality, which is much greater after years of experience than it should be. The lesions to be considered are, with one or two exceptions, curable, but the outlook varies with the promptness of intervention. They are practically all fatal if left to themselves. Intervention, to be successful, must be early. The exact nature of the lesion cannot always be determined before operation. Symptoms must be depended upon rather than diagnosis—initial and obscure symptoms rather than late and positive diagnosis.

The patient is not always seen by either the family physician or surgeon at the critical period of invasion, and too often the favorable moment for operation is lost. Too often symptoms of the gravest nature are misinterpreted by the most experienced. The dangers of operation, even in skilled hands, are by no means small. The most important factor is the loss of time, after initial symptoms appear. While he thinks that it is not advisable to scare every patient with the initial symptoms of appendicitis, he deplores the fact that certain journals lead to the popular belief that appendicitis is a fad—a belief that encourages families to withhold surgical aid, which in hundreds of patients offers the only chance for recovery. Fortunately, the onset of abdominal lesions that must be treated surgically, if at all, is so ominous of disaster that even the layman is usually alarmed.

The lesions which produce symptoms that place life in jeopardy are given in the following outline:

I. Those in which hemorrhage is the chief factor.

II. Those in which peritonitis is the cheif factor.

III. Those in which intestinal obstruction is the chief factor.

Certain lesions may belong to one or more groups.

I. Abdominal hemorrhages are either
- (1) Post-operative.
- (2) Traumatic.
- (3) From ruptured extra-uterine pregnancies.
- (4) From ruptured hemorrhagic cysts.
- (5) From gastric ulcers.

II. Peritonitis may be owing to

(a) Extravasations from intestinal tract occuring in
- (1) Appendicitis.
- (2) Perforating gastric ulcers, benign and malignant.
- (3) Perforating intestinal ulcers.
  - Tubercular and simple.
  - Cancerous.
  - Typhoidal.
- (4) Trauma.
  - Rupture of Intestine.
  - Stabs.
  - Gunshot wounds.

(b) Extravasations from viscera occurring in
- (1) Acute cholecystitis.
- (2) Pancreatic necrosis.
- (3) Rupture of bladder.

(c) Rupture of abscesses.
- (1) Of liver.
- (2) Of kidneys.
- (3) Of Falliopian tubes.
- (4) Of other regions.

(d) Ovarian and other tumors with twisted pedicle.

(e) Acute pancreatitis and fat necrosis.

III. Intestinal obstruction with necrosis may be owing to

(1) Internal strangulation.
(2) Volvulus.
(3) Intussusception.
(4) Mesenteric embolism and thrombosis.

Simple obstructions without necrosis may be owing to

(1) Bands.
(2) Foreign bodies, including enteroliths.
(3) Pressure from tumor, external to the intestine.
(4) Strictures of the intestine.

In addition to the foregoing, there are certain general infections without local cause—rheumatic and chemical peritonitis; peritoneal manifestations of general septicemias; other acute abdominal lesions, chief among which are hepatic and renal colic. Rare lesions: Acute pancreatic disease—hemorrhage; suppuration; fat necrosis—mesenteric embolism and thrombosis.

In all lesions in which from their nature intervention is usually in good season, as in extra-uterine pregnancies, in tumors with twisted pedicles and in inflammations of the gall bladder, brilliant successes have been obtained, but deplorable failures occur in that class of cases which embrace general peritonitis, acute obstructions and in intestinal extravasations. The list of deaths in the latter class of cases is appalling, especially in view of the fact that they admit of cure if the remedy is applied early enough. The chief reason why valuable time is lost is that the call for help is not heard, or if heard is not understood, or even if heard and understood it is not answered.

The symptoms considered are as follows:

Pain: Pain is one of the most important symptoms occurring in all of the foregoing troubles, with the exception of post-operative hemorrhage, which is often so insidious in its onset as to excite no alarm. The expression of pain cannot but make itself appreciated by everyone who sees the patient. While it is the initial symptom of all the lesions under consideration, it is also characteristic of disturbances of function—of indigestion, intestinal catarrh, neuralgia, etc. Therefore, pain as a symptom must be closely scrutinized. In considering pain there is but one attribute of importance—"the quality of gravity." Are we, however, to interpret abdominal pain as an indication for laparotomy? If not, what kind of pain does demand it? Where situated? Is it sharp or dull, continuous or intermittent, localized or wandering? Does it depend upon serious lesions? Is it accompanied by signs confirming disaster? The pain of serious lesions almost always impresses its gravity upon the patient. It usually has a character of its own by which its gravity is at least suspected by the physician. It is followed, if not immediately accompanied, by signs that prove its seriousness; moreover, they prove it within the limits of time that permit of successful operative cure. Pain may be severe enough to cause of itself other symptoms apparently serious, as nausea and faintness—a combination very suggestive of hemorrhage. When dependent upon hemorrhage pain is followed by a pallor and faintness which becomes more and more profound, until the true cause is obvious. Pain which is of itself ominous produces an effect of gravity, as is shown by the patient's face, which expresses suffering, anxiety and shock. Indeed, the well-known facies of peritonitis is but an advanced stage of the initial expression. Pain is usually unimportant unless it is accompanied by the symptoms of shock.

Shock: The symptoms of shock may at first be unimportant, but sooner or later they manifest themselves more plainly and add the first important evidence as to the gravity of the situation. However sudden the onset of the disease may be, aid cannot reasonably be expected until the symptoms of shock are developed enough to be recognized. The symptoms of shock occur from the violent invasion of the peritoneum by septic material or by blood and by structural lesions suddenly induced by changes of the position of an organ or by failure of its blood supply.

The violence to the peritoneum supplies, in addition to pain, those unmistakable signs which demand, in the strongest terms, immediate exploration. They are local and constitutional. Locally, tenderness and muscular rigidity; generally, nausea, vomiting and increased pulse. The temperature is unaffected or depressed. Elevation of temperature occurs soon, which adds the evidence necessary for decision.

The pain, of itself, is not a sufficient indication for surgical intervention, no matter what its character may be, if the patient seems otherwise well. Pain alone, occurring in the course of a well-recognized dis-

ease, as typhoid fever, abscess, tumor and the like, may be sufficient indication for intervention. The depth of the shock in the beginning indicates in a general way whether the lesion is hemorrhage or not. In shock from sepsis there is less pallor, less elevation of pulse and less depression of temperature. Reaction is rapid. Muscular rigidity and tenderness are the most important symptoms in cases of sepsis.

The pulse: The pulse, from the onset to the full development of the lesion, varies extremely—increasing in rapidity in shock, whether due to hemorrhage or sepsis, but may be out of proportion to the severity of the lesion. The pulse may not be high when there is deep cardiac depression; it is not infrequently slow when shock is extreme. It is affected in quality rather than rate. It may be slightly or not at all affected in most serious abdominal lesions. Pulse and temperature may be normal in hopeless general infection.

Temperature: The temperature may vary to the extreme limits. It is often subnormal during the initial shock. A rise to normal, with falling pulse, would encourage delay for a more favorable opportunity for intervention. A rise of temperature to normal, but not above, is characteristic of hemorrhage, especially if the pulse become stationary or falls—when a postponement, for the time, of operation is best, as it indicates an arrest of hemorrhage. The combination of temperature and pulse which rise and do not respond to stimulants and artificial heat, calls for immediate intervention in the strongest terms, for it means that the patient is bleeding to death.

Many patients can be saved at the present time by the injection of salt solution and immediate operation, that formerly died during the operation from the effects of shock. Too much reliance cannot be placed upon the temperature as an index of sepsis. Pain, with a temperature of 105 degrees, and with no other symptoms, often rapidly subsides; so even with tenderness and vomiting added. It may be a colic, but when tumor and rigidity are added intervention is indicated.

Bacteria: After watching a good many charts of temperature, one can form a fair idea as to the probable germ producing the trouble. Streptococcus gives high temperature; colon bacillus a low one; tubercle bacillus an eccentric temperature. Staphylococcus usually a low temperature; at times a continuously high temperature.

Rigidity: Rigidity is a symptom of great value in the early hours of acute abdominal lesions. When it accompanies pain it confirms the fear of peritoneal infection. It may be localized or extensive. It means an involuntary effort to protect the parts beneath.

Tenderness: In many cases tenderness is general when the cause is strictly local, as in appendicitis, but quickly becomes localized. An increase in the area of tenderness and rigidity is always alarming, especially if accompanied by distension. This sign is ominous of general peritonitis.

Nausea and Vomiting: In the fatal diseases pain is usually accompanied by vomiting. No symptom can be more ominous after operation; with many acute lesions none can be more suggestive. Unfortunately, nausea and vomiting accompany many trivial abdominal troubles. As a symptom by itself vomiting means nothing; with pain and diarrhea it means little; with symptoms of abdominal infection it too often means impending death. On the whole, vomiting is a confirmatory, not a positive sign. Pain, nausea, vomiting, rigidity, tenderness and shock, followed by reaction, are conspicuous in the early hours of acute abdominal lesions, and when seen together usually demand immediate intervention.

In sudden abdominal pain with shock, rising pulse, lowered temperature, pallor, restlessness, thirst, especially in woman of child-bearing age, we must suspect hemorrhage unless the history and physical signs suggest some other reason. Irregularity in menstruation, changes in the breasts, add probability to the diagnosis of extra-uterine pregnancy.

Abdominal hemorrhage in the male is rare. Occurring in perfect health, it suggests rupture of vein or artery and intestinal or gastric ulcers. Occurring in typhoid or other diseases, hemorrhage causes no pain. The chief symptom is falling or sub-normal temperature.

Pain, nausea, vomiting, tenderness, rigidity and shock occurring without signs of hemorrhage, especially in males, suggest first appendicitis if the pain is epigastric; becoming localized in the right iliac fossa, appendicitis is almost surely the lesion. Pain beginning low down in the abdomen in wo-

men suggests first some acute lesion of the pelvic viscera. The history will frequently assist in localizing the trouble. Examination under anesthesia will frequently enable the surgeon to make the diagnosis. At times it cannot be definitely made when the incision should be so placed as to make the pelvic organs and appendix both accessible to treatment. In cases of ruptured abscesses, of injuries and gunshot wounds, a previous history should point with more or less certainty to the lesion. Acute obstructions give symptoms which are much more indefinite, as many of them closely resemble the symptoms of acute sepsis. The symptoms really caused by obstruction are among the most ominous and urgent, if only their weight can be measured. In general the pain of obstruction is paroxysmal and intermittent. Shock may be slight, fever is abundant, vomiting is excessive. The signs rapidly increase in severity, to which may be added in some cases of obstruction symptoms of beginning gangrene —local and general infection, usually culminating and rapidly fatal.

Though it is often impossible to localize a lesion exactly, it is highly important to place it in the right or left, the upper or lower part of the abdomen. To open the abdomen in the left upper quadrant and to find an acute appendicitis in the right lower; to make a prolonged search of pelvic viscera, and to find an acute cholecycstis; to hunt for a stricturc at the ileo secal valve and find one at the splenic flexure; these are some of the mistakes which I can recall in which valuable time was lost.

Should inexperienced physicians operate upon these cases? No! The results will be better for the inexperienced to treat these cases medically rather than to operate. No matter how simple the case may appear to be, possible complications cannot be foreseen, and to meet these may require the very highest skill. It is the duty of him who observes symptoms suggesting acute and serious abdominal lesions to lose no time, but to determine the probable nature of the lesions, suggest the proper remedy, and, if the experience in operating is lacking, call to his aid the nearest one who has the experience.

Paralysis Following General Anesthesia.

Wm. M. Leszynsky (Med. Record, Oct. 21, 1899) says: The paralysis produced by pressure during anesthesia is preventable in every instance. As a rule it affects the upper extremities. The serious attention of the surgeon should be directed to this class of cases. It is occasioned by the following conditions:

1. Prolonged elevation and extension of the arms, allowing the head of the humerus to make pressure on the brachial plexus.
2. Metal clamps or tight straps over the shoulders or lower extremities.
3. Extension of the head toward one side, thus stretching the nerve trunks and rendering them still more susceptible to pressure.
4. Placing of the arm under the head and retaining it in the same position.
5. Permitting the arm or leg to hang over the edge of the table, thus making pressure upon some individual nerve.
6. The elbows of the anesthetizer resting heavily in the clavicular region, pressing upon the brachial plexus.

Survival for Three Weeks from the Passage of a Crowbar Through the Vertical Diameter of the Abdominal Cavity.

Miller (Edinburgh Medical Journal, September, 1899) says: A strong Irishman, twenty years old, while standing on a railway embankment, fell upon a long, pointed crowbar, which entered the right thigh in front, passed under Poupart's ligament, through the abdominal cavity, pierced the diaphragm and came out below the right shoulder posteriorly. The crowbar was withdrawn by a fellow workman with difficulty. The patient was then conveyed to a hospital partly by locomotive engine and partly by carriage, for a distance of eighteen miles. He was treated on the Expectant plan and survived for twenty-one days.—Medical Record, October 28, 1899.

A Method of Preserving Needles.

Dr. Dawbarn (Annals of Surgery) recommends a saturated solution of washing soda in water for preserving surgical needles. He finds that this method of keeping the needles and cutting instruments untarnished is superior to any other. Needles are kept bright in this way for a year and more.

Certain Aspects of Bone and Joint Disease of Interest to the General Practitioner.

Virgil P. Gibney (Medical News, October 28, 1899) says: The injuries that commonly end in disease are not numerous, yet it would be well to bear in mind that trivial injuries are sometimes followed by most distressing consequences; that the term disease, as applied to these consequences, is not inappropriate. A slight wrench sometimes given by the mother or nurse, or a playmate, is followed so closely by symptoms that point unmistakably to disease of the bone that we are bound to recognize these traumata as factors at least in etiology. As a rule, these injuries are trifling and no lesion follows. Occasionally the hyperemia set up in the neighborhood of the joint furnishes a fertile soil for the bacilli which may have been introduced, long prior to this time, into the system and a tubercular osteitis is the result.

Children convalescing from exanthemata or other infectious diseases are notoriously vulnerable, and the most trivial accidents are to be avoided. Curiously enough, the more severe traumata, such as falling from the roof or out of a window at the height of two or three stories, or from runaway carriages, seldom end in disease. The result of these severe injuries is immediate. Again, in adult life more especially, bruises or frequently recurring blows in the same locality end in sarcomata or other malignant growths. For a study of this subject reference is made to the Annals of Surgery, March, 1898, article written by Doctor Colby. He urges an early diagnosis of neoplasms in order that the spread of the process may be checked and radical measures instituted in order to prolong the life of the patient. Repeated blows sometimes impair the walls of the blood vessels and rupture takes place, producing a hematoma in the deeper structures, which may be mistaken for neoplasm. Aspiration or incision will clear the diagnosis.

It may be stated, with little fear of contradiction, that slight injuries occurring in a patient whose ancestry is rheumatic or gouty in a fair percentage of instances, bring out or develop rheumatism or gout and a general rheumatoid disease is developed. He cites an instance in which a gentleman near fifty years of age fractured the dorsal ligament connecting the second and third phalanges; prompt measures of relief were adopted, and yet a general breaking up of the system or a general development of rheumatic or gouty lesions followed in other joints. Take sub-acute rheumatic arthritis of the knee, for instance. This is frequently induced by slight trauma and acute synovitis follows almost immediately. Resolution seems to be established, and yet the recovery is not complete. There are three diseases that are most persistent and impair the functions of the joints frequently—tuberculosis, sarcoma and rheumatism.

There are certain diseases that naturally end in deformity, adopt what treatment we may—rickets, poliomyelitis, tuberculous osteitis, rheumatism, gout and neoplasms involving the epythisis. Rickets is followed by pigeon breast, scoliosis, kyphosis, coxa vera, and deformities of the pelvis and extremities. Orthopedic surgeons are often called upon to correct these deformities. When the cause is known he may frequently dispense with apparatus in so doing.

Poliomyelitis: Clinical evidence indicates possibility of infectious nature of this disease. It is a very difficult disease to manage. The spinal column, hip, knee, ankle and shoulder, especially, present deformities that appliances and operations of all kinds sometimes fail to correct. Joints may be protected and muscles may be transplanted; capsular ligaments may be shortened and even joints may be removed, substituting therefor a synostosis, which enables the patient to go about with more comfort, yet leaving some disability. Brilliant work has been accomplished by surgeons in the relief of paralytic deformities. A careful diagnosis must be made of the particular muscles involved and those which will be of the most assistance to the member after transplantation. Special effort should be made to limit the disease in the chord as soon as possible. Protection should be thrown about the muscles and joints and early use should be prevented.

Rheumatism does not often deform the child, but it is a possibility. More frequently it does deform adults, and is exceedingly difficult to correct in any age. Our efforts, therefore, should be all the

more vigorous in preventing such disabilities.

Empyema may produce most distressing curvatures of the spine.

Spinal injuries: Strains, concussions, bruises in children and adults may occasionally end in disease. They are to be differentiated from Pott's disease, malignant disease, etc. Some of the points in differential diagnosis between disease and injury are the gait, the stiffness of the spinal column, impairment of function and location of pain, whether in the course of certain nerves or whether localized. In investigating spinal disease, the absence of tenderness along the spine should not exclude the possibility of such disease. In vertebral disease, involving the bodies of the vertebræ, tenderness is the exception, especially in children. The nerve passing through the foramina of exit does not supply, as a rule, the spinus process of the vertebra involved. Spinal tenderness is the rule in adolescence in the female, even when much deformity exists, and when one feels positive that tubercular lesion is present. The occurrence of irritable spine in young women, and even in old women, should prompt one to examine the spine in regard to its function. Insist upon putting the spinal column through all the different movements possible to it. Have them come down sharply upon the heels. Produce sudden pressure upon the head. Flex the thighs strongly upon the abdomen, etc. Radiating pains in the course of the nerves passing from the different regions are very significant, especially girdle-like sensation about the abdomen; if in the cervical region, the occipital pains; in the lumbosacral region, the symmetrical sciatic pains.

Defense of the Skin Against Microbes.

R. Sabouraud (Annals de Dermatologie et de Syphilographie (Paris), September): The three organs of defense possessed by the skin are the epidermis, the derma and the migrating white corpuscles. The vascular and nervous systems, etc., are merely accessory. Each of these organs of defense defends itself by the function for which its differentiated form has prepared it. The epithelial cell defends itself by making horny cells, the fiber cells by making fiber and the white corpuscle by its constant rôle of a unicellular ameboid, seizing the enemy, closing in around it and feeding on it. Every microbian lesion must be regarded simply as a battlefield. This conception is the foundation for all pathologic histology, and unless this is thoroughly understood, the whole phenomenon is a mystery, while once grasped, everything becomes plain: The exfoliation is merely the epidermis defending itself; suppuration merely the leucocytes defending themselves, and the induration merely the mechanism of the fibrous defense. Each tissue, each element, is independently defending itself, and we know that any direct irritation of a living cell induces its multiplication, whether the irritation is mechanical or toxic. The process is a blind, unintelligent process, often defeating its own aim, as when a white corpuscle seizes a microbe and carries it away with it, but is conquered by the microbe. The microbian lesion as we see it is not a passive scene of destruction by the microbe. It is essentially a cellular reaction on the part of the organism against invasion, a defensive apparatus erected by the organism itself, and this conception of it places dermatology in an entirely different light and renders a new classification necessary. Our present classification is like a pharmacy in which all the drugs are arranged according to the size of the bottles, without regard to their contents.—Journal Am. Med. Assn., October 28, 1899.

The Surgical Treatment of Varicose Veins.

John O'Connor (London Lancet), Senior Medical Officer British Hospital, Buenos Ayres, recommends a method of treating varicose veins by extirpation of the diseased portions of the vein or veins, with primary ligation of the internal saphenos veins at the saphenous opening. W. H. Bennett and F. A. Southam express satisfaction with the results obtained from similar treatment. O'Connor describes his operation in the following manner.: "The operation which I have practiced during the past four years is as follows: The limb having been shaved and disinfected from Poupart's ligament to the ankle, a two-inch incision is made over the saphenous opening and the internal saphenous vein is doubly ligated and divided; if no varicosity is present above the knee, the wound is closed and dressed at once, with dry sterilized gauze. If the femoral portion is affected, the vein is dissected up after ligation at the saphenous

opening, and its branches are seized with pressure forceps and ligated. Generally, if varices are present above the knee there are also some below, and when such is the case the incision is prolonged downward directly over the vessels, until the lower limit of the disease is reached. In the last case on which I operated I had to make an incision 27 inches long, through which I removed 43 inches of diseased internal saphenous vein and branches. If the varices do not extend above the knee, after occluding the saphenous trunk as described above, an incision is made over the affected portion, a ligature is applied above and below and the whole intervening mass is removed by dissection. All branches are caught up by pressure forceps, and when the main channel is removed they are ligated with fine catgut. As frequently the external saphenous vein is also affected, its varicose condition is dealt with in a similar manner. To some this plan may appear formidable, yet, if the internal saphenous is primarily ligated at the saphenous opening, there is little danger of embolism, etc. I have also employed this method for removing thrombose veins occurring after and during pregnancy with most satisfactory results, and in six cases of phelibitis I have found extirpation concluded the matter. In closing these long wounds I consider the blanket suture recommended by Cheyne and Burghard most useful, as it can be rapidly inserted and does not strangle the tissues like the old continuous suture.

Reports of Cases Showing Unusual Situations for the Lodgment of the Gonococcus.

George Knowles Swineburne (Journal of Cutaneous and Genito-Urinary Diseases, October, 1899) says:

The importance of using the microscope in all forms of purulent secretions, either from within the urethra or from the follicular glands near the meatus, is exemplified in the following cases:

Infection of para-urethral follicules previous to an attack of gonorrhea.

Case 1 showed a small postule just below and to the right of the meatus, which the patient feared was the beginning of a chancer. No history of previous venerial disease; no urethral discharge; inner surface of lips of meatus perfectly normal; pustule not painful; covered by thin pellicle; borders scarcely reddened; contents seropus. The microscopical examination showed inter-cellular diplococci suggestive of gonococcus. Returned on the sixth day with a urethral discharge, which proved to be a typical beginning gonorrhea. A thick chord ran back for one-half inch parallel with the urethra. The patient gave a history of being able to squeeze a small drop of urine from the orifice of this gland previous to infection, therefore it is considered that the follicle which became infected with the gonococcus connected with the urethra by the posterior extremity, which was the infecting point in the urethra.

Case 2: Infection of a similar follicle. On first examination meatus perfectly healthy. Microscopical examination demonstrated gonococci in pus of the follicle. An attempt was made to destroy the gonococci in the follicle. Infection of the urethra took place on the eighth day after exposure, which was treated daily for two weeks.

Infection of muco-cutaneous follicles in the prepuce.

Case 3: Third attack. Patient had a long prepuce, upon the inferior aspect of which, at the junction of the skin and mucous membrane, was a raised circular spot the size of a split pea. On close examination it was found to be the thickened mouth of a mucus follicle, from which a minute drop of pus could be obtained. Microscopical examination demonstrated typical gonococci. In the ordinary position of the prepuce this follicle came exactly opposite the meatus and might easily act to reinfect the urethra. The patient stated that an exactly similar condition had existed during each previous attack and had been cauterized and treated for a chancroid. The proper treatment of this case during first attack would have been circumcision or the removal of the follicle with a pair of scissors.

An infected follicle at the frenum resembling chancer. The center of the induration contained a small opening, secreting pus, which was found to contain gonococci. The follicle was injected with a 5 per cent protargol. Urethral discharge was treated with permangate irrigations and injections of protargol.

"Gonorrheal Urethretitis in Small Boys."

Georges Bogdan and V. Tongerwol (Journal des Met. Cut., No. 6, 321).

Contributions to the Biology of Gonococcus," W. Scholtz (Arch. f. Der. and Syph., Vol. 49, pp. 3-29, 1899).

"Regarding gonorrheal urethritis in small boys, Bogdan and Tonerwol are of the opinion that (1) urethral gonorrhea in small boys happens oftener than it is usually believed; that (2) that with boys with a long, straight prepuce the gonorrheal infection is transmitted by the prepucial orifice, giving rise firstly to a primary gonorrheal balanitis and later to an urethritis by further propagation; that (3) outside of a direct contagion by way of sexual contact, we have an indirect mode of transmission of the disease by sharing the same bed, by dirty linen, etc., ways not hitherto described. Usually indirect infection takes place by way of the prepuce; that (4) there is no difference between the course, prognosis and treatment of gonorrhea in boys and gonorrhea in adults, although complications occur less frequently; and that (5) owing to the possibility of an indirect transmission of the disease, the presence of gonococci in urethral secretions of small boys does not always absolutely prove an attempt of assault; other signs are necessary to establish the latter."

In 1896 I was called up to treat the two daughters and wife of a patient whom I was treating for acute gonorrhea. The daughters were 5 and 7 years of age respectively. I found a purulent secretion coming from the vagina of each; the vulva red and inflamed. Pain on urination. Microscopical examination demonstrated gonococci in the pus taken from each patient. The girls were in the habit of dressing up in their father's and mother's clothes and playing man and wife. They undoubtedly became infected by contact of the vulva with the soiled clothing. The cases yielded in a short time to treatment with saturated solution of boric acid.—Ed.

Scholtz undertook a series of experiments in Neissler's laboratory in order to simplify the procedure of cultivation of gonococcus, to study the pathological action of gonorrhea upon animals and to classify the pathological rôle of the gonococcus in human beings by exact pathological and clinical observations. The result of his observations and researches can be embodied in the following conclusions: (1) The best medium for cultivation is a mixture of serous human liquid with agar or bouillon. (2) Upon animals—guinea pigs, white mice, and rabbits are not infected by gonococci, but it produces a toxic effect upon them. The toxic action comes best into view when injected into the peritoneum. The bodies of the gonococci contain the toxin. Devitalized gonococci, when introduced in human urethra, produce a passing purulent effect; the same takes place when devitalized staphylococci are introduced. (3) In certain conditions the gonococcus can take hold of connective tissue and evoke there an inflammation and purulent discharge, even true phlegmon. Lastly, the gonococcus in not very rare instances is carried by the lymph and blood streams to remote portions of the body, giving rise to endo- and myocarditis, as well as metastasis in joints, tendons and skin.—Journal Cutaneous and Genito-Urinary Diseases.

The Treatment of Burns and Other Surface Wounds.

G. Archdall Reid (British Med. Jour., October 28, 1899) says: The surface wounds of lower animals, such as the dog, heal, as a rule, very much better than those of man, particularly when the former has not, and the latter has the advantage of experienced surgical aid; while the deeper wounds in man with surgical aid heal as readily as those in the lower animals. He assigns as the reason that the surface wounds are kept clean by the lower animals licking them, while in man they are irritated with surgical dressings. The rule is to remove all irritating substances from wounds, while the practice of surgeons in treating superficial wounds and burns is to irritate them with surgical dressings. His method of treatment is to clean the burn or other surface wound and apply a dressing so that nothing will come in contact with the injured surface. This is done by molding a wire netting to the part of the body affected, so that the dressings are held away from the wound. In order to keep the secretions from drying and retaining pus on the surface, he first applies a moist aseptic dressing over the wire netting and then a piece of rubber protective. He recommends the same treatment for irritable and chronic ulcers. The advantages of this method may be demonstrated by dressing one-half of the

burn with the ordinary surgical aseptic dressing, leaving the other half uncovered. The wire netting with its protective dressings is then applied. The half of the wound which is not irritated with dressings heals very much quicker than the one with the dressings applied directly to the surface. He claims a great advantage for the wire cage from the fact that the redressings are painless. In cases where there is a tendency to a great amount of secretion, he removes the wire cage two or three times a day and washes the surface with saturated solution of boracic acid. The wire cage can be boiled before using and the regular surgical dressings applied over it. It is so padded and adjusted that every part of the splint or cage which comes in contact with the surface rests upon healthy integument.

Advantages of Bottini's Operation.

In an article entitled, "Experience with Bottini's Operation in Hypertrophy of the Prostate," Leonard Freeman (Denver Medical Times, October, 1899) sums up the advantages of the operation as follows:

(1) There is no mutilation and no external wound, the manipulations being carried out through the urethra.

(2) A general anesthetic, so dangerous in old and debilitated, is not often necessary, local anesthesia being usually sufficient.

(3) There is very little hemorrhage, the vessels being sealed by cauterization.

(4) There is comparatively small danger of serious infection and usually but moderate rise in temperature, the wounds being necessarily aseptic. The charred surfaces tend to prevent absorption until granulations appear.

(5) In most instances patients may sit up and even walk about in a few days, which is of great advantage in those who are old and feeble.

(6) The effects may be almost immediate, more or less urine being voided within a few hours, where it was previously impossible to pass a drop.

(7) But few relapses have been observed: in fact, improvement has a tendency to be progressive.

(8) The operation may be repeated, if for any reason the attempt has been unsatisfactory.

(9) The mortality is lower than with other effective measures.

(10) Patients will avail themselves of this method of treatment when they will refuse to submit to castration, prostatectomy, etc.

GYNECOLOGY.

UNDER THE DIRECTION OF

GEO. W. NEWTON, M. D., Professor of Gynecology, Chicago Clinical School; Attending Gynecologist, West Side Hospital,

S. G. WEST, M. D., Professor of Gynecology, Chicago Clinical School: Lecturer on Gynecology, College of Physicians and Surgeons.

Vaginal Suturing of Round Ligaments for Retroversions and Flexions of the Uterus.

In the Journal of the American Medical Association for Oct. 21, 1899, Hiram N. Vineberg claims, after three years' experience with vaginal suturing of the round ligaments for retroversions and flexions of the uterus, these advantages: (1) It is always less objectionable to a woman to have an operation done through the vaginal route than through an outside incision. (2) There is no risk of hernia. (3) It places the uterus in a more normal position, and does not bring it into the abdominal cavity, where it does not properly belong. (4) It permits the direct inspection and surgical treatment, if necessary, of the adnexa, which the extra peritoneal suturing of the round ligaments does not. (5) The therapeutic results are more satisfactory than after ventral suspension or after Alexander's operation. He has operated on 44 cases without a death. After an interval of several months the cases that he was able to keep track of had suffered no relapse. Some of these cases had borne children and had suffered no inconvenience. He claims that it is a rather difficult operation, but if one is accustomed to doing vaginal work and understands the anatomy of the parts thoroughly, its difficulties may be easily overcome.

Summary.—In summing up the foregoing observations we are justified in concluding that:

1. Tubercular inflammation of the perito-

neum is met with at all ages and is most common in early and adult life.

2. It is most frequently met with in women and between the ages of 20 and 40 years.

3. It most often originates in the pelvic sexual organs, and from that point may extend to the visceral and parietal abdominal peritoneum.

4. As a primary lesion of the peritoneum, it resembles in its inception, subsequent history and final outcome the various forms of the same disease in other serous cavities. It may be secondary to tubercular disease in any other part of the body, especially the lungs and pleura.

5. The most distinctive features of this disease are: (a) a rather constant subnormal morning temperature, rising to the normal in the late afternoon, reaching a little above at night; (b) hypogastric pain on pressure, on walking and when urinating; and (c) the presence of tubercle bacilli in the pulmonary, cervical or vaginal secretions.

6. Anesthetic examination in pelvic cases will often aid in clearing up the diagnosis, but when the abdomen is tensely distended with encysted fluid, unless immediately preceding operation, it will only subject the patient to useless discomfort.

7. A positive diagnosis other than by exploratory incision is in some cases impossible.

8. Early abdominal section, evacuation of the fluid, removal of the original focus, carefully avoiding any attempt to break up intestinal adhesions, thorough irrigation of the cavity with saline solution and closure of the abdomen without drainage of any form has been shown by later operations for other conditions, and on autopsy, to have resulted in permanent cure.

9. When confined to the pelvis, removal of the original focus usually results in a permanent cure of the disease.

10. Where fluid reaccumulates a second celiotomy will be curative or prolong life.

11. Tubercular disease in other parts, especially the lungs and pleura, is not a contraindication to operation, which will be followed by a more or less prolonged abeyance or retardation of the disease.—From the American Journal of Obstetrics and Diseases of Women and Children, Oct., '99.

A. E. GALLANT, M. D.

Dr. J. W. Williams in a paper read before the American Gynæcological Society, 1898, arrives at the following conclusions:

(1) The vaginal secretion of pregnant women does not contain the usual pyogenic cocci, having found the staphylococcus epidermidue albus only twice in 92 cases, never the streptococcus pyogenes or staphylococcus aureus or albus.

(2) The discrepancy in the results of various investigators is due to the technique by which the secretion is obtained.

(3) As the vagina does not contain pyogenic cocci, autoinfection with these is impossible. When they are found in the puerperal uterus they have been introduced from without.

(4) The gonococcus is occasionally found in the vaginal secretion. And during the puerperium may extend from the cervix into the uterus and tubes.

(5) It is possible, in very rare instances, that the vagina may contain bacteria which may give rise to sapræmia and putrefactive endometritis by autoinfection. If such cases occur they are usually not severe and do not cause death.

(6) Death from puerperal infection is always due to infection from without, and is usually due to neglect of aseptic precautions on the part of physician or nurse.

(7) Puerperal infection is to be avoided by limiting vaginal examinations as much as possible, and cultivating external palpation when vaginal examinations are to be made. The external genitalia should be carefully cleansed and the hands rendered aseptic as for a surgical operation. Vaginal douches are not necessary, and are probably harmful.

Treatment of Stump in Performing Salpingectomy.

Dr. J. Wesley Bone recommends the following treatment of the stump in performing salpingectomy.

Cut off the Fallopian tube with a wedge-shaped piece of the uterus, deep into the uterine wall, by two perpendicular incisions about an inch long in front and behind the juncture of uterus and tube, closing the muscle and peritoneum with sutures; by this method nearly the whole of the tube is removed from the uterus and we may be certain of the occlusion of the opening in the uterine cornua.

OPHTHALMOLOGY AND LARNYNGOLOGY.

Under the direction of WILLIS O. NANCE, M. D., Professor of Ophthalmology, Chicago Clinical School; Assistant Surgeon, Illinois Charitable Eye and Ear Infirmary.

Locating Foreign Bodies in the Eye by Roentgen Rays.

Sweet (Phil. Med. Jour., Oct. 14, '99) declares, after two years' work with the X-rays in ophthalmic surgery: "The ease and accuracy with which the presence of foreign bodies in the eyeball or orbit may be determined and their exact position indicated by means of the Röntgen rays renders this a most valuable method of diagnosis in injuries of the eyes when the cloudiness of the media prevents the use of the opthalmoscope. I believe that in every case of injury of the eye from flying pieces of metal, where the clouded media prevents the use of the opthalmoscope, a radiograph should be made at once to determine whether the metal has lodged in the eyeball. If the examination is negative both patient and surgeon are reassured; whereas, if the radiographs indicate that a foreign body is in the eye, an attempt to remove it may be made before a firm exudate has formed about it." He cites 35 cases, in 22 of which the presence of a foreign body was demonstrated, and afterwards verified 16 of his localizations by magnet extraction, by enucleation, or by the ophthalmoscope. In three cases—those of gunshot wounds—no operation was performed for removal of the shot, and one patient did not reappear after the radiograph was made. A brief history of 18 cases is given, and an illustration of a pair of forceps for extracting non-magnetic copper particles is presented.

Epileptic Eye-Strain.

Capps (N. Y. Med. Jour., Sept. 16, '99) reports two cases of epilepsy in which he prescribed glasses, one a year and the other five months ago, and in neither instance has there been a return of the seizures. That eyestrain might produce an epileptic convulsion, he considers a very logical conclusion, and continues, "I do not believe that the direct effort that is made by the eye to produce normal refraction causes an epileptic attack, but the continued effort that is put on the filaments of the nerves of accommodation in course of time sets up a reflex condition of the sympathetic system, that produces the paroxysm just as it does in other parts of the body. Indeed, it seems that the impression on the eye would be the most apt to cause reflex action, as the nervous arrangement of the organ of sight is so complex in its structure that it can distinguish the rays of light even in their length and color." He concludes by suggesting that in all cases of epilepsy occurring in children, the family physician should have them see an eye specialist, "at least, after other remedies have failed."

The Prescribing Optician.

Commenting on the somewhat common, and to say the least indiscreet, practice of referring eye patients to opticians for examination and treatment, the Montreal Med. Jour. editorially remarks in part: "There is an unfortunate confusion in the minds of the people, i. e., the heterogeneous mass of humanity commonly designated 'the public,' as to the meaning of the words, 'oculist' and 'optician.' He will be a public benefactor who succeeds in making every one understand that the oculist is a surgeon, a qualified practitioner of medicine and surgery and who has, or should have, spent years in acquiring a special knowledge of his work; after having obtained his medical degree; and that he is neither a shopkeeper, nor a mechanic, but that, on the other hand, an optician is a mechanic, neither more nor less, who may have some knowledge of the anatomy and physiology of watches and clocks but knows nothing of the anatomy and physiology of the human frame, or the optical problems he undertakes to solve when he proceeds to examine eyes and prescribes glasses. The optician has no knowledge of the morbid conditions which are often the real cause for seeking relief by the use of glasses. Sooner or later, the failure of the glasses to afford relief compels the sufferer to look for other advice, and herein lies the chief danger, as it sometimes happens that the delay is disastrous (vide Phil. Med. Jour. May

18, '99, case reported by Dr. Murphy, 'glaucoma treated by an optician').

"The intelligent portion of the public are always willing to be guided by the advice of the family physician, but if he is negligent, his influence is more than likely to prove positively harmful. No physician in his right mind would make a practice of sending his patients to a prescribing druggist for advice and treatment. With equal reason he should abstain from sending them to the 'examination free' optician. That which is offered to the public free, as a rule, is worth nothing."

The Prophylaxis of Ophthalmia Neonatorum.

The immediate sterilization of the edges and skin surfaces of the lids of the newly-born infant with a solution of cyanid or oxy-cyanid of mercury, is suggested by Prof. de Wecker. The result of his experiments demonstrates that the conjunctiva is always infected secondarily to the lids, on which the germs develop, hence the necessity of a thorough precautionary cleansing.

Secretion and Exudation as a Factor in Eye Diseases.

Wright (Jour. Am. Med. Assn., Oct. 21, '99) considers two important conditions present in inflammatory affections of the eye: (1) The peculiar change in the small blood vessels which causes the blood, and especially its corpuscular elements, to adhere to and pass through them, forming an exudate, (2) the proliferation of the cells thus formed. He mentions the iodid of potassium as the most beneficial remedy, outside of local treatment, in iritis, cyclitis, choroiditis, and glaucoma, and has observed that it relieves the pain in these disorders, often as promptly, and much more permanently, than does morphia. He administers, usually, not less than sixty grains, in a saturated solution, in a wineglassful of milk, before meals, and seldom hears of its disagreeing with the most delicate stomach.

Operative Treatment of High Myopia.

Bull, in a paper read before the N. Y. Med. Soc. (Med. Rec., Oct. 28), indorses the attitude of Dr. Knapp regarding the operation of removal of the crystalline lens in high myopia, viz.: "The real value of this treatment will be recognized when the period of its boom has been passed." The following contra indications to operative procedure are suggested: (1) Extensive degenerative changes in the retina or choroid in the region of the macula. (2) Detachment of the retina already existing. (3) Opacities in the vitreous indicating more or less extensive disease of the choroid and blood-vessels. (4) Previous loss of one eye from whatever cause. (5) Decided loss of transparency of the cornea. (6) Any form of contagious conjunctivitis, particularly trachoma. (7) Advanced age of patient. (8) Myopia of less than 12 D.

The indications for the operation are: (1) The degree of visual acuity actually existing at the time—if not sufficient for the social needs of the patient—the operation was indicated first on one eye and then on the other, if there were no contraindications. (2) If there was unmistakable evidence of rapid increase in the near-sightedness, and if the myopia amounted to 12 D., or more.

Ointment for Granular Conjunctivitis.

Bloebaum (Deut. Med. Zeitung: N. Y. Med. Jour.) reports having observed decided benefit from the use of the following ointment in all stages of the disease:

℞

Copper Sulphate.
Salicylic Acid.
Cocain aa.....part 1.
Vaselin .....parts 100.

M.

Otorrhea.

Cipriani (The Therapist) calls attention to the danger the patient suffering from otorrhea is exposed to, having a purulent cavity in the system separated from the brain by a thin wall of bone, often only one to two mm. thick. He refers to statistics of 200 cases of cerebral diseases, in which death ensued after injury to the meatus, suppuration of the cavity of the tympanum forming the most frequent cause of abscesses of the cerebrum or cerebellum. The following indications should receive attention: (1) The pus should be removed in the best possible manner. (2) The condition of the mucous mass which is secreted should be improved. (3) The diseased local condition, which may influence or prolong the disease, should be removed. Formalin in a 2 per cent solution used daily

is the best injection, for, besides its antiseptic properties, it possesses the capability of making the parts unsuitable for the development of any pathologic germs of disease, always assists healing and protects against excessive granulation in recent cases.

Adenoid Growths of the Post-Pharynx.

Gorham (Ver. Med. Soc., Jour. Am. Med. Assn.) refers to the general lack of knowledge in the profession in regard to adenoid vegetations, due to neglect of the subject by medical writers and teachers. Adenoids are of two varieties, the soft and the hard, and occur in children of all ages up to adult life. In the cases he has observed, 75 per cent had middle-ear trouble, and 50 per cent hypertrophy of the faucial tonsils. Removal of the growths under an anesthetic is the only effective treatment. Gorham prefers the upright to the horizontal position for operating, uses the Gottstein's curette, or the Lowenberg forceps, or some modification of these. The general health of the patient markedly improves after the operation, in most instances.

Diagnosis of Foreign Bodies in the Trachea.

Referring first to the frequency of the accident of foreign bodies in the trachea in children, and the symptoms, Capps (Tex. Med. News, Sept., '99) calls attention to a new method of diagnosis of these bodies and their positions by means of the phodendoscope. By using the small rod with the button on, the rod that is recommended to be used in outlining the heart, etc., and placing it over the trachea at various points, the existence and location of the foreign body can be readily ascertained. If, as often happens, it lies just beneath the vocal cords, allowing free ingress of air, but preventing its free egress, the phodendoscope will convey the unmistakable clink or metallic sound produced by the sudden closure of the glottis. Any change of position of the foreign body can also be readily determined in this way. He reports two cases in which this method was employed with success.—(Jour. Am. Med. Assn.)

Nasal Catarrh.

Stuckey (Med. Rec.) lauds the following modification of Dobell's solution, to be used, slightly warmed, as a disinfecting and cleansing spray:

℞

Sodii Bicarb.	
Sodii Biborat, aa	℥ss.
Glycerini,	℥ii.
Listerini,	℥i.
Aq.,	℥iii.

M.

PROCTOLOGY.

Under the direction of J. RAWSON PENNINGTON, M. D., Professor of Rectal Diseases, Chicago Clinical School; Surgeon-in-Chief, Good Samaritan Hospital for Fistula and Other Diseases of the Rectum; Consulting Surgeon, Mary Thompson Hospital for Women and Children.

Fistula in Ano.

The above caption is the title of a very creditable article in a recent issue of the Louisville Medical Monthly, by Dr. Asman. After referring to the frequency of the trouble, the great importance of its early recognition and treatment, the varieties of abscesses that cause fistula and the manner of treating them, then he continues by saying that "there are four important varieties of fistula in ano, (a) complete, (b) blind external, (c) blind internal, and (d) horseshoe. A complete fistula is one having both an internal and external opening. This is supposed to be the commonest form, yet if the experience of many in finding the internal opening were to be taken, it would seem that the blind external form is most frequently found. In operating for fistula much undue stress is laid upon finding the internal opening. While, of course, it is necessary that the internal opening, if one exists, be divided in the operation for fistula, yet it is not essential that it be included in the first cut. When the grooved director is introduced into the external opening and passed along the sinus if it does not enter the internal opening it can be easily pushed through the mucous membrane into the bowel; then divide the tissues upon it and search upward from the cut, allowing the instrument to take whatever di-

rection it will, and go as far as it will. Again dividing the tissues, we, of course, divide whatever internal opening might exist. The search for additional sinuses must never be omitted, for if the smallest brand is left a cure is not effected. * * * A horse-shoe fistula is one that encircles, or almost encircles, the entire rectum. It is the most serious form of fistula in anu. In operating for it, to follow the channel in its entirety necessitates cutting away the tissues from their attachment to the rectum proper. If this is done, the function of the sphincter is destroyed; or if the sphincter is divided twice during the same operation, its function is destroyed. Consequently a most careful operation is required. It is often necessary to operate upon one side first, and then when it is healed, to attend to the other side. This is especially true when there are two openings into the bowel, both of which would involve the sphincter."

I have quoted him quite extensively because there are one or two points in his most excellent paper which are so diametrically opposed to my views and observations that I wish to offer what I believe will be recognized as a just criticism, notwithstanding the statements made by the author of the paper are practically the same ideas as those contained in some of our text books.

My first exception is in regard to finding the internal opening when operating. He says: "If the grooved director does not enter the internal opening it can be easily pushed through the mucous membrane into the bowel; then divide the tissues upon it and search upward from the cut, allowing the instrument to take whatever direction it will and go as far as it will. Again dividing the tissues we, of course, divide whatever internal opening might exist."

[Any operator following this advice must, sooner or later, be confronted with the unpleasant fact that he has divided the sphincter at a healthy point, and slit up healthy mucous membrane on one side of the bowel, while the internal opening, which has not been molested, complacently smiles at him from the opposite side. This method of operating I consider very bad rectal surgery. It cannot be gainsaid that many cases of incontinence of feces and unsuccessful operations for fistula have been caused by heeding this kind of advice and practicing this method of operating.

That I may more clearly elucidate the subject and make it more comprehensive will introduce a schematic drawing.

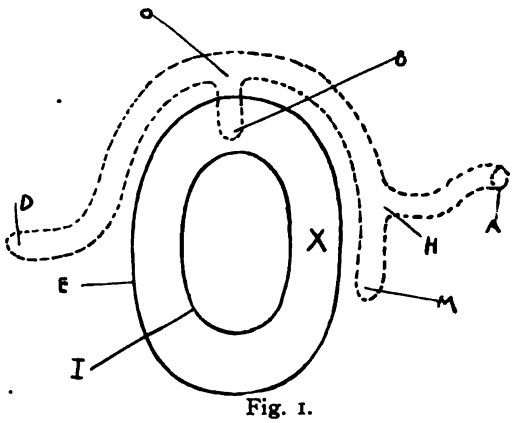

Fig. 1.

Let the dotted lines in Fig. 1 represent the fistulous track or tracks, "I" the internal sphincter, and "E" the external sphincter, "A" the external opening of the fistula and "B" the internal opening. Now let it be supposed that the only part of this extensive fistula that has been diagnosed by the surgeon is the track leading from "A" to "H," that the internal opening "B" and the entire track extending from "M" to "J" has not been observed, nor even suspected. You can readily see that under these circumstances with the grooved director and knife in the hands of one not familiar with the conformation of rectal fistula, and having been taught as above and following out such teachings, would introduce the director at "A," and not being able to find the internal at "H" would push it through the tissues and into the bowel at "X," and divide the tissues over it. What a serious error that would be! Yet it would be complying with the teachings contained in the paper and some of our text books.

To successfully operate upon these cases it is very necessary: first, to recognize their conformation, especially is this true when there is more than one external opening on each side of the anus, and to bear in mind that these tracks have a home in common; second, not to push the director through healthy tissue, but to carefully search out and follow the fistulous track. In the schematic drawing the track from "A" to "H" should be divided. Then the one leading around to "D." The one for "O" to "B" if properly treated is apt to close without dividing the sphincter at all.

The second exception. He says: "In op-

erating for horseshoe fistula to follow the channel in its entirety, necessitates cutting away the tissues from their attachment to the rectum proper, which, if done, destroys the function of the sphincter." That it destroys the function of the sphincter has not been my experience, and I have made incisions around the bowel in a number of instances, and have never had a bad result follow.

In the schematic case presented (Fig. 1) were an incision made from "A" to "H," then to "D" and the track from "O" to "B" thoroughly curetted and irrigated, and the patient intelligently dressed thereafter, a good recovery should be expected with no incontinence of feces.—J. R. P.]

The Significance of Obstinate Constipation as a Symptom.

Dr. J. G. Sherrill (The Louisville Medical Monthly, November, 1899) discusses the subject of obstinate constipation in those cases where there is a complete cessation of gas or fecal flow, or an inability to produce evacuation of either. He says the condition is frequent, and may be gradual in development, the evacuations being more and more difficult until absolute constipation is established.

This variety occurs most frequently in women of sedentary habits, who do not heed the calls of nature. The gradual encroachment upon the lumen of the gut by a neoplasm is also a frequent cause. Among the causes of sudden obstipation he cites: Simple impaction of feces; the presence of toxins in the alimentary canal, as in the condition known as biliousness, where long and continued medication is necessary to produce an evacuation; peritonitis, where there is paresis of the intestine or that form known as the septic type. Volvulus, intussusception, strangulated hernia, and intestinal bands, all produce this symptom mechanically at first, later by the paresis incident to the peritonitis. He asserts that laparotomy for simple constipation would be a serious mistake, but not nearly so grave as to fail to recognize a mechanical obstruction in which an operation would offer the only hope for the preservation of life. He urges that, inasmuch as the treatment depends so much upon the cause, our methods of diagnosis should, if possible, be improved upon. He states that simple constipation will seldom be accompanied by such severe pain as results from a mechanical obstruction. Fecal vomiting occurs late, when an impaction is present.

Lead poisoning can be recognized by the paroxysmal character of the pain, which is relieved by pressure, absence of fever, retraction and rigidity of abdominal walls, and blue line on the gums, if present, is a positive sign.

Tumors and malignant diseases can usually be recognized by physical examination, also by the slow and gradual development of the symptoms.

Intussusception will often present a soft sausage-shaped tumor, and usually the constipation will not be complete.

Strangulated hernia and volvulus are marked by pain, vomiting (which is soon fecal), rapid distension of abdomen, low temperature and anxious countenance. Auscultation will reveal contraction of intestines above constriction.

Peritonitis is accompanied by fever of at least one or two degrees. Pain is not always present, and may or may not be severe. Pressure increases it. Stethoscope will reveal no contraction of the intestines. If peritonitis is due to rupture or wound of the intestine, there will probably be a tympanitic note over normal liver dullness, owing to the free gas in the peritoneal cavity.

All the conditions producing obstinate constipation have many features in common, and on that account demand a more careful attention to the minor points for a diagnosis. The facial expression is often indicative of the gravity of the case.

Cascara Sagrada in Habitual Constipation.

H. N. Moyer (Medicine, August, 1899) discusses the use of cascara sagrada in habitual constipation. He says this drug has been popular, but in last few years is losing its popularity, because of the "improved" preparations placed upon the markets. Next in importance to the cascara he ranks the pill of aloin, strychnin and belladonna. For twelve years he has used the nauseous and bitter fluid extract of Parke, Davis & Co., to the exclusion of other drugs.

In prescribing it the patient is given an ounce of the fluid extract, some large-sized capsules and a dropper. He is instructed to begin with 10, 15, 20 or 25 drops of the

drug in a capsule at bedtime, according to the apparent necessities of the case. The empty capsule is easily filled by the patient and the nauseous effect of the drug is not observed.

The dose is increased by five drops each night, if necessary, until a movement is produced. The drug is then continued at this dose for a few days, after which would begin a gradual reduction of one drop daily. He believes it to be, when given in this way, the most efficient medicinal means at our command for treating habitual constipation.

Senna Leaves in Chronic Constipation.

Barton Dozier has had great success with senna leaves in chronic constipation—even in case of more than twenty years' standing. A teaspoonful to a tablespoonful should be taken just before going to bed. The patient will soon learn the amount of leaves necessary for his individual case. A dozen leaves suffice for some, while others require several dozen. The remedy is inexpensive, and not at all unpleasant.—Mercks' Archives.

Notes of a Case of Extensive Transsacral Excision of the Rectum for Cancer, Followed by Perfect Sphincteric Control.

Chas. Ryall, London (British Medical Journal, Oct. 21, 1899), says on examination he found a hard carcinomatous growth just within reach of the tip of the finger, but this gave her so much pain that ether had to be administered to allow a thorough examination. The growth was about the size of the clenched fist, and involved the whole circumference of the bowels, though more extensive anteriorily and was mobile, but its upper limit could not be reached. There was no evidence of involvement of the pelvic organs nor of metastatic deposits in other parts. So the case was deemed a suitable one for the radical treatment. The operation was preceded by one week of preparatory treatment.

Technique.—She was placed on her left side in the semiprone position, with the thighs well flexed on the abdomen. The field of operation was rendered aseptic. A median incision was made from the middle of the sacrum to within two inches of the anus. The coccyx and lower end of the sacrum were freed from their muscular and ligamentary attachments, and the middle sacral vessels were separated from the bone. The sacrum was then divided with the pruning forceps, and its lower two segments with the coccyx were removed. It was decided to save the anus and lower part of the rectum, which were healthy, and therefore the next step in the operation was the separation of the bowel above this healthy part from the surrounding soft structures, which was easily effected, and the peritoneum for each side of the rectum was then incised, thus opening into the pouch of Douglas. On introducing the hand into the abdomen through this wound it was found that the disease extended for a considerable distance upwards, but was quite free from adhesions. To free and bring down the bowel was the next step, and this was carried out by ligaturing the meso-rectum in sections, and dividing it, but, owing to the extent of the disease and the necessity of bringing healthy bowel down to the external wound, part of the sigmoid had to be freed by carrying out the same procedure on the meso-sigmoid. Thus a large coil of gut, measuring over twelve inches, and containing all the apparent disease, was lying external to the wound. As stated above, the lower three inches of the rectum, which was healthy, had not been separated from its attachments. At this stage of the operation the patient suffered from severe collapse, and it was therefore deemed inadvisable to submit her to further shock. So the loop of bowel was drawn well out of the wound, and the abdomen closed by suturing the peritoneum of Douglas' pouch to the anterior surface of the bowel. The external loop was then secured to the skin with sutures, dressings applied and the patient put to bed. During the operation the collapse was treated by hypordermic injections of strychnin, and a transfusion of four pints of a normal saline solution, and after her removal to bed similar measures soon made her rally.

Next day bowels acted after giving her 5 grs. of calomel, and after this patient gave no further cause for anxiety. The external loop of gut was washed out daily peranum The wound healed without any trouble, and a week after the operation the loop was cut off level with the skin. She was then left with two openings, similar to a colotomy. The bowels acted from the upper opening. * * * Four months after the first opera-

tion a second operation was performed, when, by the aid of sutures, the two segments were brought into line, and good anterior and lateral walls for this new rectum were thus formed.

Patient made a good recovery, passes her motions naturally without an aperient, and there is no evidence of recurrence of the disease.

Resection of the Rectum and Bladder—Colostomy—Case of Artificial Anus—Recovery—Demonstration of Patient.

Charles G. Levison (Occidental Medical Times, Sept. 15, 1899) states that the examination revealed a broken down, indurated growth, bleeding easily when handled and occluding the luen of the rectum about two inches above the sphincter.

Clinical diagnosis: Carcinoma of the rectum.

On July 25, 1898, the patient was operated upon for a left iliac colostomy, and the gut sewed to the peritoneum with catgut sutures, the spur being formed by a gauze strip pushed through the mesocolon, this being preliminary to the operation upon the rectum. After three days the colon was opened with a "Paquelin," which revealed a spur completely diverting the fecal current. Temperature never above 100 degrees. On August 3d, after the rectum had been thoroughly disinfected with peroxid of hydrogen, through the artificial anus, the pelvis was elevated on a sand pillow placed under the abdomen, and a transverse incision together with the parasacral incision of "Rydygier" made the lower end of the sacrum severed with a chain saw and flap turned downwards, and to the right. The object of this elevation of the pelvis is to facilitate operating as well as to diminish hemorrhage. The peritoneum was at once incised and the growth found situated 1½ inches from the anus and extending about two inches up the rectum, involving its entire anteror wall. After the intestine was freed and the rectum severed above the growth, the lower end of the gut (about 5 inches), including the base and neck of the bladder, the prostate sphincter and anus, all of which were involved, were removed by working from above downwards, thereby performing a perineo-sacral operation.

The upper end of the gut was attached by sutures to the skin beneath the sacrum, and the bladder closed with sutures. Recovery was uneventful, excepting that the bladder sutures did not hold, a not unexpected result, as the entire base of the bladder had been removed. Subsequently the artificial anus was repaired as follows: After thorough disinfection of the gut through the artificial anus, with hydrogen dioxid from above and below, it was dissected from the peritoneum, to which it had become firmly attached. The opening in the gut being too large to close by suture, it was decided to resect the intestine, which was done, and the anastomosis completed by means of a Murphy button.

Recovery was uneventful. The microscopical diagnosis of adeno-carcinoma was made by Dr. P. W. Nathan, and a secton of the removed prostate, which revealed cancerous infiltration, was demonstrated before the society. He then refers quite extensively to statistics and the various methods of operating.

Fissure of the Anus.

Fissure of the anus is, as every one knows (Medical Press, Sept. 20, 1899), an affection as troublesome as it is painful. Of the different remedies recommended, forcible dilatation of the sphincter is the most radical and perhaps the most effectual But it is not easy to get the patient to submit to the operation outside of hospital practice. Dr. Boas recommends a much simpler treatment, which he affirms to have succeeded with him ten times out of twelve. The principle of the treatment being the complete immobilization of the anal region, he puts the patient to bed for one week, allowing for all nourishment milk and light pottage. At the same time he orders ten drops of laudanum to be given three times a day, so as to produce absolute constipation. If the fissure can be brought to view he powders it with iodoform, calomel, etc., but without touching it with any instrument or dressing. Any antiseptic washing would be more hurtful than useful. At the end of eight days he administers a full dose of castor oil, recommending the patient to restrain himself from defecation until he felt that the contents of the intestine had become completely liquid. The treatment failed only when complete retention of the feces could not be obtained.

A Bivalve Speculum with an Obturator.

By J. Rawson Pennington, M. D.

Perhaps there is no class of surgical instruments in which there is so great a variety and which gives so little satisfaction to the general practitioner as that of the rectal speculum. No attempt will be made to enumerate the various instruments or discuss their relative merits or demerits, which would make quite a volume.

I have observed that the speculum most universally employed is the bivalve, and yet every physician using it knows how utterly useless it is; that when introduced into the bowel, unless the patient is anesthetized, it is of but little more service than a plug of so much iron pushed into the rectum; that the moment he begins to spread the blades it begins to pain his patient, and has to be withdrawn without obtaining a satisfactory examination; and, in those cases in which the blades can be more or less opened, all he can hope to see is an imperfect view of two small longitudinal portions of mucous membrane. To obviate these difficulties and at the same time give the general practitioner a speculum which will not be deprived of its bivalve properties I have devised an instrument, Fig. 1, which is simply an ordinary bivalve speculum with an obturator.

Author's Bivalve Speculum and Obturator, grasped with the hand for introducing. Thumb passed through the ring of the Obturator "O."

To introduce the instrument it is grasped by the full hand, as shown in the cut, and gently pressed into the bowel, on removing the obturator you at once have a view of the rectum equal to the area of the circumference of the instrument, and with the patient in the proper position can obtain a complete view of the entire rectum, inspect the rectal valves and chambers, and frequently a part of the sigmoid flexure.

Fig. 1.

There is nothing in its construction that destroys the bivalve properties of the instrument. On the contrary, it enhances them. Many physicians have examined and pronounced it a superior instrument. It is practically a bivalve and tubular speculum combined. It was designed more especially for a dressing speculum.

The instrument is manufactured by Sharp & Smith, Chicago.

OBSTETRICS AND PEDIATRICS.

Under the direction of FRANK B. EARLE, M. D., Professor of Obstetrics and Diseases of Children, Chicago Clinical School; Professor of Obstetrics, College of Physicians and Surgeons (Medical Department University of Illinois).

The Gonorrheal Puerperium.

Cumston (Amer. Jour. Obs. and Dis. of Women and Children, October, 1899) writes: Saenger made the statement before the first Congress of German Gynecologists that one-eighth of gynecological affections were of a gonorrheal nature; and in order to get a correct idea of how often complications during the puerperium are due to gonorrhea, he examined the gynecological records of the Leipzig clinic and found that 26 per cent of the pregnant women were affected with the pathologic process. In order to corroborate this statement he referred to Oppenheimer, who a year previously had studied the cases in the gynecological clinic of Heidelberg, and who had found that 27 per cent of the pregnant women there admitted were afflicted with gonorrhea and that 40 per cent of the children born in the institution presented a gonorrheal ophthalmia. That this latter affection could never be produced by normal lochia has been demonstrated by Zweifel, who inoculated the conjunctiva with healthy lochial discharges and always with a negative result. Lomer, who at that time was connected with Schroeder's clinic, had also made researches for the gonococcus in 32 pregnant women and found the organism present in 9 of them, or, in other words, 28 per cent.

It must be said that Saenger made his diagnosis from a purely clinical standpoint, as he did not consider bacteriological examinations reliable, and he also pointed out the importance of gonorrheal ophthalmia as a diagnostic point of gonorrhea in women recently confined.

From these figures it at once becomes evident that more than 25 per cent of pregnant women are afflicted with gonorrhea, while at the same time the mortality during the puerperium is comparatively small, and Saenger concluded that gonorrheal infection complicating the puerperium can occur in the two following manners, namely: (1) To an existing gonorrhea there is added a septic infection, which he terms a puerperal-gonorrheal mixed infection; (2) gonorrheal infection which ascends during the puerperium, in which case the disease is due entirely to the gonococcus.

The Modification of Cow's Milk for Artificially Fed Babies.

The modification of cow's milk for artificially fed babies is of greater importance than is generally conceded. It is comparatively simple when one knows the constituents of mother's milk and cow's milk. The following tables of modification may be of use to the general practitioner: For convenience 24 ounces is the amount prepared in each instance:

No. 1. For infants to two months: Milk, ℥viii; cream, ℥iss; sugar, ℥i¼; gruel, ℥xivss.

No. 2. For infants two to five months: Milk. ℥viii; cream, ℥iii; sugar, ℥i¼; gruel, ℥xiii.

No. 3. For infants six months to one year: Milk, ℥viii; cream, ℥ivss; sugar, ℥i1-6; gruel, ℥xiss.

These tables are after Holt's modification and are based on the supposition that the milk used contains 3 per cent fat and the cream 16 per cent.

Milk fat can be easily determined if it be remembered that the relation of cream to fat is as 5 to 3.

Early Diagnosis of Measles.

The early contagiousness of measles is undoubtedly imperfectly understood by the profession. Commonly it is supposed that little danger exists until the catarrhal symptoms make their appearance and that the acme of the contagious period is the stage when temperature, rash and catarrhal symptoms are at their height. This, however, is not the fact, for, from the number

of recently discovered symptoms, it has been fully demonstrated that the greatest danger is in the pre-eruptive stage. Koplik was the first to describe the bluish-white, slightly-raised, rounded efflorescences which occur on the mucous membrane of the cheek and in some cases on the mucous membrane of the lips. The number of spots is usually from six to twenty, but in exceptional cases several hundred have been counted. The spots are usually found opposite the lower molars, and occasionally are confined to one side. The spots cannot be removed by wiping over them, but can be readily removed by forceps without leaving any abrasion of the mucous membrane. Koplik's spots are pathognomic of measles. In every case where they were found the typical eruption made its appearance within a few days. These spots usually make their appearance during the first few days of the prodromal stage. Their average duration is six or seven days and they begin to disappear upon the appearance of the characteristic eruption.—(Wiener Med. Cresse, 1898, xxxix, 806.)

In addition to Koplik's spots there is the erythemato-pultaceous stomatitis of Comby, which is present two or three days before the eruption. This consists of an unnatural reddening of the mucosa of the gums with a white, pultaceous deposit.

The soft palate phenomenon of Sevestre, which consists of an erythema, has also been noted to occur before the cutaneous eruption.

Bolognini's sign, although not pathognomonic of measles, is very commonly associated with it. From the number of diagnostic signs which are present before the eruption makes its appearance the diagnosis should be made without fail.

A Peculiar and Interesting Case.

Recently the writer learned of an interesting, peculiar and obscure case. Child 5 months old, previously happy and healthy, began to be unusually cross and lose flesh. Simple remedies failed to give relief and resort to opiates was had. Emaciation and restlessness continued for two months. The mother noticed something protruding from the rectum and upon investigation it was found to be the end of a string. Within a few hours the child passed a string two and one-half yards long. Immediately the restlessness disappeared and the child began to gain flesh.

Gastric Ulcer in a Child.

W. L. Johnson (Medical Council, October, 1899) reports the case of a girl aged 5, who for more than 10 months had suffered from pain in the stomach soon after eating. Red blood mived with mucus was vomited on two occasions and on palpation there was tenderness in the left hypochondriac region. Suitable dietetic and medicinal treatment was prescribed and for some time there has been o pain or hematemesis. —(Philadelphia Medical Journal, Nov. 4, 1899.)

Anti-Streptococcus Serum.

The committee appointed by the American Gynecological Society to investigate the value of anti-streptococcus serum in the treatment of puerperal infection concludes as follows (Am. Journal of Obstetrics, September, 1899, pp. 308-9):

I. A study of the literature shows that 352 cases of puerperal infection have been treated by many observers, with a mortality of 20.74 per cent; where streptococci were positively demonstrated, the mortality was 33 per cent.

II. Marmorek's claim that his anti-streptococcic serum will cure streptococcic puerperal infection does not appear to be substantiated by the results thus far reported.

III. Experimental work has cast grave doubts upon the efficiency of anti-streptococcic serum in clinical work, by showing that a serum which is obtained from a given streptococcus may protect an animal from that organism, but may be absolutely inefficient against another streptococcus, and that the number of serums which may be prepared is limited only by the number of varieties of streptococci which may exist.

IV. Thus far the only definite result of Marmorek's work is the development of a method by which we can increase the virulence of certain streptococci to an almost inconceivable extent, so that one hundred billionth of a cubic centimeter of a culture will kill a rabbit.

V. The personal experience of your committee has shown that the mortality of streptococcus endometritis, if not interfered with, is something less than 5 per cent, and that such cases tend to recover if Nature's work is not undone by too energetic local treatment.

VI. We unhesitatingly condemn curettage and total hysterectomy in streptococcus infections after full-term delivery, and attribute a large part of the excessive mortal-

ity in the literature to the former operation.

VII. In puerperal infections a portion of the uterine lochia should be removed by Doederlein's tube for bacteriological examination, and a uterine douche of four to five litres of sterile salt solution given just afterward. If the infection be due to streptococci, the uterus should not be touched again, and the patient be given very large doses of strychnia and alcohol if necessary. If the infection be due to other organisms, repeated douchings and even curettage may be advisable.

VIII. If the infection extends toward the peritoneal cavity, and in gravely septicemic cases, Pryor's method of insolating the uterus by packing the pelvis with iodoform gauze may be of service.

IX. The experience of one of the members of the committee with anti-streptococcus serum has shown that it has no deleterious effect upon the patient, and, therefore, may be tried if desired. But we find nothing in the clinical or experimental literature or in our own experience to indicate that its employment will materially improve the general results in the treatment of streptococcus puerperal infection.

PATHOLOGY, BACTERIOLOGY AND HYGIENE.

Under the direction of GEORGE H. WEAVER, M. D., Professor of Pathology and Bacteriology, Chicago Clinical School; Assistant Professor of Pathology, Rush Medical College.

Splenic Pseudoleukaemia (Anaemia Splenica; Splenomegalie Primitiva).

Bertram W. Sippy. (American Journal of Medical Sciences, 1899, cxviii, p. 428 and 570):

The author reports a very interesting case of this rare and fatal disease, gives a very complete clinical history with post-mortem report, and dicusses the theories as to its origin and nature. The patient was 45 years of age, male, Russian. About four years before death, there was noticed a firm swelling in the left hypochondriac region, and from this time his health failed. There was diarrhea followed by constipation, shortness of breath was present at the time the swelling was noticed, and gradually increased. Epistaxis was frequent. Feet and ankles were swollen during the later months of life. There was local discomfort and a feeling of fulness and pressure in the epigastric and left hypochondriac regions. The enlarged spleen reached to within three finger breaths of the pubic bone and an inch beyond the median line. The blood examination showed the red corpuscles reduced to 1,740,000 per cubic millimeter, and the hemoglobin 30 per cent.

The autopsy found the spleen 31x16x9.5 cm., weighing 2350 grammes, with smooth, bluish-gray surface, on section it was red, firm and uniform. Infarcts were present. The retroperitoneal glands were small, pinkish, forming a chain about the abdominal aorta, and showing no softening or yellow areas. Slight enlargement of the mesenteric, axillary and inguinal glands, showing same characteristics as the retroperitoneal glands. The bones showed a fetal structure. The histology of the spleen was as follows: Slight alteration in most of the malpigian bodies, some showing sclerosis; fibrous tissue formation about veins; extension of fibrous tissue into spleen pulp; areas of marked sclerosis; no signs of acute inflammation or degeneration of cells.

The enlarged lymph glands show fibrous hyperplasia and also hyperplasia of lymphoid tissue.

The author thinks the enlargement of the spleen precedes the anemia and that the anemia is due to the action of toxic substances produced by the diseased spleen. Seven cases are collected where the spleen has been removed surgically, in five of which cure was thus effected. The author is inclined to advocate this operation in such cases.

Fragmentation of the Heart Muscle.

A contribution to the knowledge of the Pathology of Fragmentation and Segmentation and Fibrosis of the Myocardium, by John Bruce MacCallum. (The Journal of Experimental Medicine, 1899, iv, p. 409.

Fragmentation of the Myocardium, by

Strickeisen, (Ziegler's Beiträge, xxvi, p. 105):

MacCullum gives first a brief description of the histology and histogenesis of the cardiac muscle cell. In his studies, the tissues were treated by Kolossow's osmic acid method, or by a modification of it, and by ordinary methods. He found that fragmentation of the heart muscle was a more complex process than mere breaking of the fiber. In every case where the breaking is at all prominent, there is a peculiar condition of the muscle, consisting of alternating contraction and extension of the fibers. This contraction and extension is not distributed over large areas, as in normal heart, but adjacent fibers are contracted and extended, and parts of a cell may be in different conditions. The breaking may occur in the cement line, in the contracted or extended muscle, or in a degenerated muscle, the initial stage in the last case being an extreme extension of the muscle. The simple breaks are due to a degenerative process.

Strickeisen has studied 150 cases of violent death in regard to fragmentation of the muscle fibers of the heart. The lesion was most often found in the papillary muscles and the wall of the left ventricle. The auricles were never involved. The break in the cell was often near the nucleus. The intercellular tissue was normal and no hemorrhages were seen. Separation of cells which occurred by ruptures of cells was most common.

Fatty degeneration was rarely found associated with this condition, but pigment atrophy was recognized as a predisposing cause.

In 56.6 per cent of the cases studied, fragmentation was present. These cases included instances of phthisis, acute peritonitis, pneumonia, typhoid fever, sepsis, etc. In two cases of tetanus it was marked. The cause is violent contraction of the heart-muscle, as it is very common where death is from asphyxia. It is not present in fatty degeneration because the force of contraction is not sufficient to cause rupture of the fibers. On the contrary, in pigment atrophy the fibers are rendered more friable.

From the frequency of its occurrence, a primary weakening of the heart-muscle can be excluded. It does not occur long before death, as changes do not follow in the fibers or the interstitial tissue as would then be the case. The ruptured ends of the fibers match.

The bearing of fragmentation as a cause of sudden death is decided in the negative. Such cases usually follow great efforts or acute infectious diseases. The heart is weakened, vascular pressure is lowered and the asphyxia which follows is accompanied by fragmentation. This may furnish an explanation of death which occurs suddenly at the beginning of chloroform anesthesia. As a cause of sudden death in itself it is strongly opposed.

FUNCTIONAL DISEASES OF THE

UTERUS AND APPENDAGES.

In the treatment of Functional Diseases of the Uterus and Appendages, DIOVIBURNIA (Dios) holds a most remarkable curative influence in its marvelous tonic effect on the entire uterine system, indicated in all abnormal conditions, whether dysmenorrhea, amenorrhea, menorrhagia or any of the functional wrongs of women. Aching back, bearing-down abdomial pains, soreness of the lumbar region, DIOVIBURNIA should be administered in tablespoonful doses, three times a day in hot water.

In all forms of Female Neurosis, NEUROSINE (Dios) should be combined with DIOVIBURNIA.

Recommended in Non-Descriptive Cases where the symptoms are not positive, locating the cause.

℞ DIOVIBURNIA
NEUROSINE..... aa ℥ iv.

M. Sig. Teaspoonful in hot water every two or three hours until relieved.

Literature Mailed on Application: DIOS CHEMICAL CO., ST. LOUIS, MO., U. S. A.

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Notes on the Technique of the Operative Treatment of Urethral Stricture.

By F. KREISSL, M. D.,

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A satisfactory result of a stricture operation is dependent on the following conditions: An exact determination of the localization, extent, quality and caliber of the constriction; accurate cutting—excision of the tissues constituting the stricture, and proper after treatment. These principles, however, can be applied only by selecting proper instruments. To make a diagnosis of stricture some physicians are still using the ordinary metallic stone searcher or elastic bougie, regardless of the possibility of overlooking a number of elastic strictures, as they will not offer noticeable resistance to the passage of a rod of uniform caliber. These instruments will give little information about the consistence and extent of the stricture in constrictions of smaller caliber, and particularly elastic strictures. Callous strictures are productive of the most distressing immediate and reflex symptoms, and always call for operative interference. The proper instrument for determining a stricture is the bougie à boule, which is provided with a scale on its shaft. On using it, it is to be remembered always to begin the exploration of the urethra with a caliber of a higher number and then lessen it according to requirements. This mode of procedure is important, especially if multiple strictures of different caliber are present. For exploring the membranous and prostatic portion of the urethra, the proper instruments are bougies, the metal shaft of which is curved similar to the ordinary Benique sound. The scale on the shaft is divided into centimeters. The straight shaft is mounted with a scale ranging to 14 centimeters; the curved shaft on one ranging to 20 centimeters. The bladder portion of this shaft terminates in a screw-thread, to which olives of various sizes are screwed. By means of the bougie à boule an approximate determination of the stricture along the longitudinal axis of the urethra may be obtained, which can be accompanied by feeling with the hand the engagement of the olive as it enters the constriction and its disengagement as it leaves the same. In this respect the urethroscope, however, will give more accurate information, as it directly presents to view and permits a study of the extent of the changes in the "central figure" caused by the infiltration, as the absence of the longitudinal rugae and the peculiar discoloration of the mucous membrane covering the pathological tissue. By means of the bougie à boule you cannot always determine whether the constriction is of the bandlike, semilunar or valvular variety, whether situated at the upper or lower side of the urethra or surrounding the latter in an annular form.

The "localizer" constructed by the author will meet these conditions. It consists of a rod 18 centimeters long, of a caliber of 14 Char., and provided with a centimeter scale. The "feeler," which is 1½ centimeters long, has a globular distal end, which is attached by means of a hinge-joint. This feeler in locked condition is concealed in a groove on the rod. By means of a screw gear in the "pavillon" of the shaft the "feeler" may be tilted up from its recess and the extent of its elevation may be gauged by an indicator beside the screw. The instrument is introduced up to a point immediately posterior to the stricture, which previously has been located by means of the bougie à boule, and can be done with accuracy because the scales of the two instruments are exactly alike; now the "feeler" is turned toward the upper wall of the urethra and elevated from its recess until the hand on the dial indicates a caliber five numbers higher than the caliber of the olive employed to locate the stricture.

Then traction is made on the instrument toward the external meatus; if the globular end of the feeler passes along without encountering an obstruction or resistance, we have proof of the absence of an annular stricture or one situated on the upper urethral wall. Now, after carrying the instrument back to its former point, we turn the "feeler" toward the lower wall, adjust it in the manner described above and by gently making traction on the instrument, we at once will feel the arrest of the globular end of the "feeler." In the membranous portion of the urethra strictures always form on the lower wall, where the urethral follicles, with which the urethra is only scantily supplied, are chiefly located. Strictures at the internal sphincters are almost always of the annular variety. For this reason and others to be mentioned later the "localizer" is not necessary in the pars posterior. As may be learned from the foregoing, it is improper to speak, as Guyon does, of the upper wall as the "surgical" and always to cut in the direction of the upper wall; or, as H. Thompson advises, always to make your urethrotomy on the lower wall. Following these directions we will frequently incise normal tissue instead of the stricture and for the time being may enlarge the lumen of the urethra, but the main object, namely, to sever the constricting tissues to the last fiber, is not attained. Therefore, it is very important to accurately estimate the exact location of the stricture tissue. An essential factor for a successful urethrotomy is to ascertain the extent of the stricture along the longitudinal axis of the urethra. This is of minor importance speaking of the elastic, valvular and bandlike constrictions, which hardly ever exceed one-half millimeter, but applies especially to the callous strictures. In order to fully appreciate the effect of urethrotomy it is instructive and of value to inspect, the state of affairs at the point of incision directly after, and a few days after the operation, through the urethroscope. The anterior part of the urethra is surrounded by a heavy layer of circular muscle fibers. By cutting a fibrous stricture completely, the result will not be a simple cleft, but by means of the retracting muscle fibers a figure similar to an ellipsoid will be formed, the opposing angles of which lie in the longitudinal axis of the urethra. The more powerful the circular muscle fibers are and the less infiltration around the elastic stricture, the more the lips of the wound will gape. The defect will be filled later with granulations and covered by mucous membrane. If, however, the stricture is not cut in all its fibers, or the musculature at that point is inadequate, this ellipsoidal figure will have a very small radius and the narrow, clean-cut wound will close by agglutination of its edges. This can be observed in callous strictures, especially those of more than 1½ centimeters in length, as well as in fibrous strictures surrounded by an area of infiltration. We may therefore draw the following two conclusions: 1. That internal urethrotomy is not indicated in callous strictures, especially not in those of 1½ centimeters or over in length. 2. That we should endeavor to reduce the infiltrated areas surrounding the fibrous strictures before urethrotomy is performed. This can be accomplished gradually by the use of sounds, or more rapidly by electrolysis with very weak currents. The latter mode of procedure will be of advantage in irritable strictures in which sounding is followed by hemorrhages and urethral fever. After the infiltrated areas have been reduced in this manner or the elastic stricture is found, a priori, without any infiltration and its caliber will allow the passage of the urethrotome, the stricture is cut by means of internal urethrotomy, provided it is situated in the anterior 8-9 centimeters of the urethra. For this purpose it is necessary to dilate the lumen of smaller strictures to a proper caliber by means of sounding or electrolysis. For internal urethrotomy I recommend my modification of the Otis urethrotome. As internal urethrotomy, according to my opinion, is only practical, successful and accompanied by less bleeding in the anterior 8-9 centimeter of the urethra. My instrument accordingly is shaped much shorter, enabling the surgeon to use the same without assistance. The shaft is provided with a scale of centimeters identical with that on the rod, to which may be attached olives of variable sizes, and also identical with that of the "localizer," the only difference being that the former indicates the distance of the knife, the latter the distance of the olive "feeler" from the meatus. By means of this uniformity of the

scales the knife may be put into action at the vesical end of the stricture, without incising unnecessarily the highly vascular normal tissues. For the purpose of carrying your knife through the stricture and through it only, I constructed the handle of the knife as follows: The smooth surface of the same is provided with a scale so that the line coming first into view indicates that the knife has left its groove and that it has reached a point immediately behind the stricture. The succeeding lines correspond to a millimeter division and indicates at the moment they come into view the extent of the incision the knife has made in the stricture tissue, V. The scale reads up to 15 millimeters. The advancing movement of the knife is brought about by a worm-gear placed on the upper surface of the handle, consisting of a rack and an endless screw engaging with the rack. We now may readily understand that the extent of the incision may be accurately gauged corresponding to the previously ascertained length of the stricture. This can hardly be accomplished with the Otis urethrotome. It is a known fact that the blades of the instrument are to be separated until they put the stricture tissue on a stretch, so that they will not recede before the knife. The instrument having been thus adjusted, the attempt to draw the knife forward, the handle of which is extremely small and can hardly be grasped by two fingers, requires so much force that you will be unable to govern the extent of the incision as previously marked out, and lose control of the knife, which will cut the mucous membrane and subjacent tissues for a considerable distance beyond the stricture and thus produce unnecessary and profuse hemorrhages and increases the liability to urinary infiltration.

I desire to summarize the advantages of my instruments as follows: Strictures of the pars anterior may be diagnosticated to their full extent, and their location ascertained. Internal urethrotomy may be performed without hemorrhage and with great accuracy. I would fain say by "exact dosage." Callous strictures which have a length of more than 1½ centimeters will not be removed permanently by a cutting operation, as softening and absorption of the hard heterogenous mass does not follow the incision as assumed by various authorities. In this case we will have to resort now, as ever, to dilatation as a palliative means, which certainly can be augmented by electrolysis. To effect a radical cure, the callous is excised and an attempt should be made to cover the loss of substance by a plastic operation. The results published hitherto, although comparatively few in number, are sufficiently favorable to encourage further attempts in this direction.

Surgical interference of strictures situated in the bulbous portion and in the posterior urethra, varies according to their caliber and consistence. I deliberately do not say it varies according to their permeability or impermeability, because we can hardly speak of impermeable strictures as long as urine may be forced through by the bladder, even if it escapes only by drops. In cases where this is impossible we have to deal either with momentary exhaustion of the depressor-muscle or with swelling of the tissues in the lumen of the stricture, or with an obliteration of the urethra, which, however, occurs very rarely. To effect the passage of a bougie through a stricture canal is mostly a question of patience and skill on the part of the operator, or a question of the time which we may be allowed to take in view of the patient's constant agony. If we have to deal with a short, fibrous stricture the caliber of which will allow the passage of any tunneled sound, be it of the smallest caliber, external urethrotomy at the perineum or bulb is indicated. Simple cutting of the pathological tissues will suffice for these cases. I wish to say in this connection, as I also have emphasized in former publications, that electrolysis allowed me to dispense with cystotomy and retrograde dilatation in cases of stricture of apparent impermeability, where cystotomy and retrograde dilatation seemed to be indicated. A single application of a very weak galvanic current has always rendered the stricture passable to a metal instrument. I believe that this fact cannot be emphasized enough, as it enables the country physician, who is not always equipped with all necessary instruments for such operations, to relieve in a few minutes, at least temporarily, the symptoms of retention of urine until preparation for a radical operation can be made.

The merit of having originated this method of treatment undoubtedly accrues to Newman, although I do not accept his view that electrolysis will produce an absolute disappearance of callous or even of fibrous strictures. Callous strictures of 1½ centimeters length, situated in the pars posterior or bulbo membranacea, are to be cut or excised by the external method with or without previous use of electrolysis, as they may or may not be passable to a tunneled sound.

If loss of substance is not too extensive the urethra will regenerate in a short time around the fixed catheter. Extensive defects, however, call for plastic replacements, the operation for which is more successful in the membranous than in the spongy portion, because of absence of erections, which seriously interfere with prompt union.

In this connection I wish to call attention to my tunneled sound, or stricture-arreteur as it is called in France, the construction of which permits of very accurate work with least injury to normal tissue, in consequence of which the time of recovery is shortened. It consists of a shaft curved similar to a stone searcher and along its convex surface runs a groove similar to the one on Ditte's sound up to the tapering distal end of the instrument. At the highest point of the convexity an olive of No. 30 Charriere caliber is placed, which is cleft up to its longest axis, by means of which an interruption of the tunnel of the sound is avoided. For strictures of very small caliber I use a similar tunneled sound, which differs from the above named only by the form of its vesicle end. In place of the metal point a filiform bougie is screwed to the distal end of the olive, which will have to pass the tight stricture before the olive reaches it. The handle at the proximal end of the shaft is sufficiently long to be manipulated conveniently by an assistant. The assistant pushes the instrument toward the operator, and as the olive impinges on the periphery of the stricture it gives its exact location. The tissues directly above the cleft of the olive are cut from without and the urethra is opened immediately anterior to the stricture, the knife is placed into the groove of the olive and pushed toward the bladder along the groove until all stricture tissues are perfectly cut. In strictures which can, neither by electrolysis nor by sounding, be made passable within reasonable time, and where the condition of the patient demands prompt relief, I would prefer to make a cystotomy with retrograde dilatation and eventually excision, instead of searching for hours for the central end of the stricture canal lacerating the perineal tissues. Another variety of stricture which Fuller, perhaps, properly named "encircling fibers," are fibrous tissue fibers which constrict the prostatic urethra at the internal sphincter. These fibers are likewise rendered accessible by a perineal incision and are cut by a highly convex bistoury designed by the author. The blade of the bistoury is pushed, lying on its flat surface, along the left index finger, introduced into the neck of the bladder until it reaches its destination. Here the cutting edge is turned toward the stricture tissue and pressed through its fibers. The subsequent hemorrhage is very small, as the short convex cutting surface of the knife precludes all injury to the normal tissue. Of late I attempt to cut these fibers with a Battani galvano-cautery incisor, modified by Freudenberg, which procedure I deem less serious if the operator is skilled in the manipulation of the instrument. The patient is spared a sick bed for one week, and danger of hemorrhage or infection is absolutely excluded. For internal urethrotomy which requires only a few minutes I never use general anesthesia. An injection of a few c.c. of a 1 per cent solution of cocain or 10 per cent. solution of antipyrin is sufficient to render the operation painless, the latter requiring fifteen minutes, however, to develop its full effect.

Although local anesthesia produced by antipyrin is not as pronounced as that produced by cocain, I would prefer the former to the latter. First, because of the possibility of cocain poisoning; secondly, as is set forth by Antal and substantiated by others, antipyrin has the property of contracting the blood vessels and thus prevents after bleeding, which always occurs after cocainization, as it produces a transitory anemia only. For external urethrotomy at the pars anterior, Schleich's method will prove sufficient. The perineal operation, on the other hand, necessitates general anesthesia. If during internal urethrotomy healthy tissues were not

injured unnecessarily and the urine is aseptic, the introduction of a drainage tube or of a catheter up to the bladder is not required. Many patients cannot tolerate the irritation the tube produces at the external sphincter for more than a few hours without getting tenesmus, which either causes the catheter to be expelled from the urethra, or, if well secured, the urine to escape beside the catheter. Under heavy pressure, its eye is pushed up into the prostatic urethra, and it is this state of affairs which easily leads to urinary infiltration. Drainage of the bladder, on the other hand, after perineal urethrotomy, is absolutely necessary and tolerated well by the patient, as here the external sphincter is not concerned. The catheter is secured by a silk stitch and removed five days after the operation. It is not necessary to leave the catheter in situ for a longer time after simple incision, as it may delay closure of the wound and favors the production of fistulæ. It is of benefit to introduce an iodoform gauze tampon into the wound alongside of the catheter, to check parenchymatous bleeding and drain the wound of its secretions.

Complete closure of the wound should not be made. Aseptic urine by no means retards the healing process of the perineal wound, which is complete eight to ten days after removal of the drainage tube. In cases where the urine contains pathogenic microbes it is advisable to begin with the administration of internal antiseptics a few days prior to the operation in conjunction with antiseptic bladder irrigations and to continue this treatment until the perineal wound is closed. In the event of profuse bleeding from the anterior urethra, which cannot be checked by compression from without. A silver catheter inserted into the pars pendula and irrigation with large quantities of hot sterilized water will be most useful; it is to be remembered, however, that the liquid should run through the canal without any pressure, which can be accomplished by lowering the irrigator sufficiently and introducing a Nélator catheter of 14 Char. up to the external sphincter.

More profuse hemorrhages, which in such cases, as a rule, originate in granulation tissue, are also caused by sounding the urethra too soon after the operation and with instruments of too large a size. These hemorrhages are checked likewise by compression or hot water irrigation. In fibrous strictures the attempt to stretch the scar by post-operative soundings is unnecessary if all fibers are cut. If this is omitted soundings will not prevent a recurrence of a stricture. After operation for callous stricture soundings are just as justifiable as before, because here the operation generally speaking, is done mostly to gain time, or because the stricture was of an irritable variety. Soundings should not be begun before a week after the operation, and at first use sounds of small caliber only.

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A Rectal Curiosity, with Report of Cases.*

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I report this case to you for the purpose of making known to the profession the possible result of that unsurgical and nefarious procedure, namely, the injection of carbolic acid into a tumor which is contiguous with some of the most vital parts of the human structure. Well might the subject of this devastating experiment say, she has lived only in the past, or that life once so sweet to her, even in her poverty, has now become a burden and even death itself offers to her the only ray of hope.

She is now about 40 years of age, has never borne a child, and was in perfect health until for the relief of a small hemorrhoidal tumor she submitted to the procedure just mentioned. The result which is exceptionally grave in this woman's case is only an exaggeration of those which have in a number of instances been presented to me. I was called by my friend and conferee, Dr. Stanley, of this city, to see this woman, and upon arriving at her bedside I was able to get this history. She had a small hemorrhoidal tumor injected by some one, and a few days thereafter the pain which had been constant since the injection was made, increased, and she began to discharge pus a few days later from the bowels.

This sloughing process continuing for a long time became to her a death warning, and when Dr. Stanley was called he found her in the condition which I described. The

*Read before the Tri-State Medical Association of Mississippi, Arkansas and Tennessee at Memphis, Nov. 15, 1899.

perineum has entirely sloughed away, the perineal half of the sphincters are gone, the pus has undermined all of the muscles of this region and the bowel is protruded, engorged and inflamed, the mass is the size of a large cocoanut, is eroded and gangrenous in appearance.

The hemorrhoidal tumor which I fancy was the offending part in the beginning is at one side still wearing an air of endurance. The woman is dying with sepsis, and the one possible chance which I offered her when I first saw her, but did not insist upon, is now gone.

Suffice it to say, I am prompted by the acquaintance which I have of the facts, namely: First, that doctors in all parts of the country are attempting the cure of hemorrhoids by the injection of carbolic acid into them. Second, that the same does not cure them. Third, that its use is fraught with great danger, and should in the future be stamped with the disapproval of the entire profession. Had we not pictured this case so grave in the beginning, the question arises, what could have been done? The peritoneum was in this mass, hence a deligation of it in sections as described by Dr. Pinckney French of St. Louis, or the operation of excision as described by Dr. Chas. K. Briddon of New York, was impossible, or at least impracticable in this case where, so much infecting material was disseminated around and through all the tissues, and which without any operative procedure has eventually infected the peritoneum with, of course, a fatal result, which peritoneal infection was the most to be dreaded step of this ravaging process. The next and only procedure I think plausible was suggested to me at the recent meeting of Mississippi Valley Medical Association by Dr. Joseph Matthews of Louisville, Ky., which was to enter the abdomen over the sigmoid, and after drawing upon and replacing the prolapsed bowel, anchor the same by a continuous suture to the abdominal wall. This would have enabled me to drain by incisions the undermined structures of the pelvic floor, and the suppurative process gotten under control. The next step would have been the building up of a perineal body from the surrounding tissues and closing in the parts in the best possible way, then if too much of the sphincter had not been destroyed, the suturing of its ends. These are only the possibilities in such a case when there is yet time, and sufficient vitality to armor us with hope. As to suppuration in this locality, I beg to say the location in functions of the muscles of the pelvic outlet are such as must render the formation of a suppurative focus above a medium lateral line drawn from the anterior of one ischiatic tuberosity to the same point on the opposite side eminently more serious than if this focus be at some point posterior.

The transversus perinei, levator ani and the sphincters all rendered tense by the irritation tend to sacculate the site of focus and make easy the dissection by this confined pus around and through various important structures, furthermore it is not a matter of so little concern to cut through the sphincters in the anterior quadrant, when an abscess in this locality has resulted in a fistula and necessitated doing so.

We should eschew at all times procedures so prone to cause a suppuration in this region such as that described in the report of this case, and if from any cause a suppurative focus is diagnosed here no time should be lost in going into and radically dealing with it, keeping constant and thorough drainage throughout.

Practical Anatomy of the Ankle with Reference to Talipes.*

By W. T. Eckley, M. D.,

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The numerous varieties of club-foot, technically called talipes, are met by you perhaps as frequently as any other chronic disease. Any disease interfering with locomotion is in the nature of social and domestic affairs a very serious problem for the patient. The moment you are consulted regarding such a malady you share with your patient responsibility in the final outcome of the serious problem.

There are two varieties of talipes, as you are well aware: 1. The congenital. 2. The acquired. Everybody agrees on this, that there are exhausted neurons that fail to preside over given muscles, that act ligamentously to the ankle joint, but just what the specific causes are that exhaust wholly or completely these neurons is as

*A Lecture before the Anatomical Class of the Chicago Clinical School.

yet, I believe, a matter of physiological and pathological speculation. The brilliant successes recorded in this department of orthopedic surgery fully warrant your most zealous efforts in attaining that which is easily attainable, viz., a knowledge of the gross anatomy of the structures concerned in talipes.

As we dissect this region remember that each and every extensor muscle about the ankle joint has its physiological flexor antagonist, and further, that each extensor muscle is innervated by an extensor nerve just as antagonistic to a flexor nerve as is an extensor muscle antagonistic to a flexor muscle. Certain muscles, under the influence of motor flexor neurons, flex the foot; certain other muscles, under the influence of motor extensor neurons, extend the foot. A motor impulse is transmitted over both extensor and flexor tracts and abduction or adduction of the foot results.

It is the duty of the physician to know

FIG. 1.

in any given case of talipes two things: 1. Exactly which set of muscles is paralyzed. 2. Exactly where are located the antagonistic muscles that produce the deformity. Having once recognized the incompetent muscles, he must know from what source these muscles derive their nerve supply and where these nerves may be interrogated for operative purposes. The physician must be mindful of the fact that a nerve trunk that supplies a group of muscles supplies: 1. The skin that covers these muscles. 2. The joints that are moved by these muscles.

To facilitate our comprehension of the anatomical details of the subject of talipes, let us tabulate, in advance of the dissection, the ligamentous muscles of the ankle joint, according to their physiological function, as founded on the flexor and extensor activities of the fundamental unit—the neuron.

1. Tarsal flexors.—Tibialis anticus, inserted into the internal cuneiform bone and base of great-toe metatarsal. Peroneus tertius, inserted into the base of the little-toe metatarsal. Nerve supply—anterior tibial a branch of the external popliteal division of the great sciatic.

2. Tarsal Extensors.—Peroneus longus lies behind fibular malleolus, passes through a groove in under surface of cuboid bone, traverses an osseo-aponeurotic canal in sole of foot, and inserted into base of great-toe metatarsal. Peroneus brevis lies behind fibular malleolus, is inserted into base of little-toe metatarsal. These tendons may be interrogated on the outer surface of the os calcis. Nerve supply: Muscular branches of the musculo-cutaneous nerve, a branch of the external popliteal division of the great sciatic nerve. Tibialis posticus lies behind the tibial malleolus and is inserted principally into the tuberosity of the scaphoid bone. Nerve supply: Posterior tibial branch of internal popliteal division of the great sciatic. Gastrocnemius plantaris and soleus inserted conjointly into the posterior surface of os calcis by the tendo achilles. Nerve supply: Muscular branches from the internal popliteal division of the great sciatic.

3. Tarsal Adductors.—Tibialis anticus and tibialis posticus.

4. Tarsal Abductors.—Peroneus longus, peroneus brevis and peroneus tertius.

The ankle joint is the junction between the leg and foot. Through this joint the weight of the body is transmitted by the

tarso-metatarsal arch to the ground. By classification this joint is diarthordial, because of free movement and a capsule. By subdivision it is ginglymus because of movement in two directions. The bony parts entering into the joint are the tibial and fibular malleoli, and three corresponding articular surfaces of the astragalus. The nerve supply is from the anterior and posterior tibial and long saphenous in accordance with a principle previously mentioned regarding nerve distribution.

I desire you to notice a special construction of the bony parts of the ankle joint, that you may be able to interpret properly the physiological phenomena in a normal joint, viz., the wedge and slot arrangement. The wedge is formed by the superior and lateral articular surfaces of the body of the astragalus; the corresponding slot by the horizontal articular end of the tibia and the articular surfaces of the two malleoli. Now, when the wedge is forced into the slot, as is the case in flexion of the foot, a perfect fit is the result. The transverse diameter of the distal part of the slot is less than an inch; that of the proximal part of the slot is one and one-half inches. In flexion, then, the narrow part of the wedge coincides with the narrow part of the slot and likewise the wide parts of each coincide in flexion. In extension of the foot, however, the narrow part of the wedge is brought forward into the wide diameter of the slot, and in this position circumduction of the foot is possible because physiological dislocation has virtually taken place.

In the position of extension, then, the possible simple movements are, as you may now demonstrate on the cadaver, abduction, adduction, flexion and extension of the foot.

As a consequence of loss of function in certain muscles acting on the ankle joint the foot becomes chronically deflected. The deformities are named accordingly flexors and extensors and their adductions and abductions as follows:

1. Talipes equinus is full extension of the foot. The tibialis anticus and peroneus tertius are paralyzed. The deformity is produced by the tibialis porticus. The peroneus longus, the peroneus brevis and the tendo achilles.

2. Talipes equino varus is the same as No. 1 with inward deviation of distal end of foot due to loss of power in the peroneus longus and brevis.

3. Talipes equino-valgus is the same as No. 1 with outward deviation of distal end of foot due to loss of power in the tibialis posticus.

4. Talipes calcaneous is full flexion of the foot. The muscles paralyzed are tibialis posticus, peroneus longus, peroneus brevis and tendo achilles group. The deformity is produced by the tibialis anticus and the peroneus tertius.

5. Talipes calcaneo-varus is the same as No. 4 with inward deviation of the distal end of the foot due to loss of power in the peroneus tertius.

6. Talipes calcaneo-valgis is the same as No. 4 with outward deviation of the distal end of the foot due to loss of power in the tibialis anticus.

FIG. 2.

The malleoli are easily located on the patient. Behind the inner malleolus you may feel the tendon of the tibialis posticus. The only vessel in this locality is the posterior tibial artery, but this lies midway between the malleolus and the os calcis. The long

saphenous vein is in front of the malleolus. Behind the outer malleolus are the tendons of the peroneus longus and brevis. The short saphenous vein lies behind this malleolus and should be avoided. The tendo achilles is rather near the posterior tibial vessels and nerve and too much study cannot be devoted to your incision in this locality, since no one can tell just the amount of displacement the vital structures may have suffered as a consequence of the deviation. The external popliteal nerve may be easily palpated behind the head of the fibula and on the anterior and outer surfaces of the neck of the same. Now make traction on these muscles according to the above tabulation and you can produce artificial club-foot in all its varieties.

The treatment of talipes from an anatomical point should begin early. Inactivity in muscle tends to loss of specific elements by atrophy. Where such changes occur only the connective tissue remains, and this vestige becomes incorporated with the capsule. In morphology such incorporation of obsolete muscles is of frequent occurrence. The external lateral ligament of the knee is morphologically the divorced tendon of the biceps femoris; the internal lateral ligament is a divorced part of the peroneus longus muscle; the coraco-humeral ligament is a divorced part of the minor pectoral muscle; the liamentum teres is in all probability, says Morris, a remnant of the pectineus muscle. The divorced parts of muscles just mentioned, while formed by the same process of atrophy and transposition as the adherent tendons about the ankle now under consideration, in the anatomy of talipes, differ from these latter in this, that their occurrence extended over long periods, whereas the atrophic changes in mal-placed muscles, in talipes, occur in a few months; in the former, then, adjacent parts have ample time in which to accommodate themselves to a new environment, but in the latter no such accommodation is possible such as to preserve the usefulness of the foot. The new era in the treatment of talipes, which has for its ensign early treatment, is anatomically and physiologically proper.

Summary of anatomical structures, relations and landmarks about the foot and ankle.

1. The tendo achilles serves for the insertion of the gastrocnemius, plantaries and soleus. It is a most powerful extensor of the tarsus and foot. It is inserted into the posterior surface of the os calcis. Three inches above the os calcis the posterior tibial nerve and vessels lie less than one-half inch to its inner side.

2. The inner and outer malleoli belong to the tibia and fibula respectively. These bones, 1, give attachment to the annular ligaments; 2, they inclose on two sides the astragaloid notch; 3, in flexion of the foot

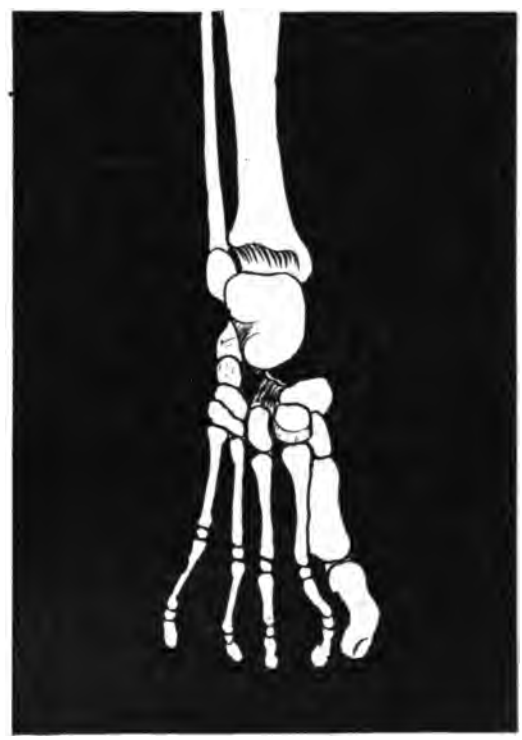


FIG. 3.

they prevent lateral movement of the ankle joint; 4, they give attachment by their apices to the internal and external lateral ligaments.

3. The tendons of the peroneus longus and peroneus brevis lie immediately behind the fibular malleolus. The short saphenous vein and nerve lie in the superficial fascia over these tendons and should not be cut in peroneal tenotomies.

4. The tendon of the tibialis porticus lies immediately behind the inner malleolus. This tendon is a powerful flexor of the tarsus and is inserted into the internal cunei-

form bone and base of the great-toe metatarsal.

5. The anterior annular ligament is the deep fascia between the malleoli. Under it are the anterior tibial nerve and vessels and the tendons of the tibialis anticus, extensor longus digitorum and peroneus tertius.

6. The internal annular ligament extends from the internal malleolus to the os calcis. Under it are the following structures in order from malleolus to os calcis, tibialis posticus, flexor longus digitorum, posterior tibial vessels, posterior tibial nerve and flexor longus hallucis.

7. On the outer surface of the os calcis one inch below the fibular malleolus may be recognized by touch on a patient the peroneal tubercle. The tendon of the peroneus brevis passes in a groove above this tubercle; that of the peroneus longus below the tubercle.

8. The tendon of the flexor longus hallucis crosses plantar to the tendon of the flexor longus digitorum in the sole of the foot, in the second layer of muscles, opposite the tuberosity of the scaphoid bone.

Gonorrhea in the Male and Female.

By Wm. Cuthbertson, M. D,
Professor of Surgery, Chicago Clinical School.

For years past gonorrhea has been regarded by a great many physicians and most men as a disease to be laughed at. Aside from those who regarded it as a disgrace from a moral standpoint, the sufferer from gonorrhea was looked upon more as the victim of a misfortune than a victim of a grave disease.

Dr. G. Frank Lydston was one of the first to call attention to the serious import of this affection, and to suggest that gonorrheal patients should be put to bed and treated like any other of the sufferers from acute inflammatory infections, instead of receiving ambulatory treatment, such as is still in vogue.

It is my firm conviction that if the recumbent posture and perfect quiet were insisted on recovery in all cases would be very much hastened, and some of the complications of this disease, more especially suppurative adenitis and specific epididymitis would be avoided to a great degree.

Exercise stimulates the glandular system to greater absorption, hence if rest were insisted on localization of the disease would be more often the rule.

Unfortunately this disease is in the very large majority of cases acquired in an illegitimate way, and the victim is in disgrace. He is unwilling therefore to go to bed and thus make his condition known. We have as a result patients walking around in the most fearful condition, risking health, and even life itself, rather than risk the loss of the good opinion of their friends, which would be the consequence of exposure.

Previous to the discovery of the gonococcus by Neisser in 1879 it was impossible to differentiate true gonorrhea from other septic infections of the genito-urinary tract. Hence many cases of simple urethritis were called true gonorrhea, and on being treated by antiseptic washes and injections were cured in a few days, thus engendering a contempt on the part of the patient for the disease.

Many patients are so careless about their personal condition that an attack of gonorrhea does not cause them any annoyance, more especially as the disease is hidden from sight. Therefore they would rather have a discharge from the "secret parts" than from the nose, as the one would only have to be cleansed twice a day at the most; the other every few minutes. It is generally this class of individuals who make use of the expression, "I would as soon have an attack of gonorrhea as a bad cold."

Another class of patients, unfortunately for human kind, seem to have no consideration for the rights or health of others, but only seek to gratify their own baser passions, consequently we have men and women who are suffering from gonorrhea, both in its active and its latent state, indulging in sexual intercourse, legitimate and illegitimate, resulting in a widespread propagation of the disease and adding many innocent victims to the ranks of gonorrheal patients.

Nearly everyone has a horror of and is thoroughly imbued with a knowledge of the dreadful and loathsome nature of syphilis; but I doubt very much if gonorrhea is not the cause of more widespread suffering, sickness and even death than syphilis.

There are comparatively few persons, and they are worse than brutes, who will not abstain from sexual intercourse during an

attack of syphilis, but unfortunately the contrary is true of gonorrhea.

The short period of incubation of the latter disease (from three to five days) makes its innocent transmission more easily avoided, but the widespread idea of the triviality of its nature causes this infection to be much more frequent than syphilis. Howard Kelly, quoting E. Wertheim, says, "gonorrhea is the most frequent cause of suppuration met with in gynecological practice." This statement in itself proves the frightful prevalence of this malady.

GONORRHEA IN THE MALE.

Gonorrhea by direct infection in the male causes urethritis, anterior and posterior, and peri urethritis, stricture of the urethra, prostratitis, cytitis, and ulceration of the bladder, and by ascending infection ureteritis and septic pyelo-nephritis.

By infection through the seminal vesicles, epididymitis and purulent orchitis results. Through penetration of the wall of the urethra by the gonococcus, peri-urethral abscess not infrequently results.

GONORRHEA IN THE FEMALE.

In the female while gonorrhea of the vagina and urethra are not so difficult to treat on account of the greater accessibility of the parts, still it proves in a large number of cases a very difficult and stubborn disease to eradicate.

We find in the female resulting from gonorrheal infection vaginitis and urethritis, urethral stricture (rare), cystitis, ulcer of the bladder (rare), ureteritis, and pyelonephritis, inflammation and erosion of the cervix, endo, para, and peri-metritis, purulent salpingitis, ovaritis and ovarian abscess, and abscess of Bartholin's glands. Everyone has seen gynecological operations of the greatest magnitude performed for conditions resulting from gonorrheal infections, and in numberless cases these operations have been done on the innocent wife who was a victim of an uncured gonorrhea in the husband.

Belfield says (Park's Surgery), "the many follicles and pockets which line the genital canal of either sex are naturally included in the invasion (of the gonococcus). In the male the numerous lacunæ of the urethra, Cowper's glands, the prostatic utricle and glands; in the female the lacunæ of the urethra and urethro-vaginal septum, and the vulvo-vaginal glands.

This is a fact of great clinical importance, for long after the general surface has recovered its normal condition and the patient is apparently well, the gonorrheal infection may persist in some of the hidden pockets in quantity sufficient to infect a partner in the sexual act and when favored by alcoholic or sexual excess to reinfect the genital canal of the individual." Personally I have found the gonococcus infiltrating the muscularis of the tube, and on these lines it can be readily understood how a woman can infect a sexual partner, even although she may be free from all external evidences of the disease.

"Kapatowsky finds that ten per cent of prostitutes still have gonococci in the vaginal secretions after they have been discharged from the hospital as cured of gonorrhea." Seven per cent of these women "admitted to the hospital for other diseases have gonococci in the vaginal secretion, and that eight per cent of prostitutes harbor the gonococcus." (Kelly Operative Gynecology).

On account of the contiguity of the anus to the seat of the primary disease in both male and female, the rectum is often invaded by this disease. The rectum, mouth and nose in both sexes are frequently infected through unnatural practices. As an instance of this I may quote an epidemic of rectal gonorrhea which broke out several years ago in one of the Toronto jails and which was traced to a negro who had gonorrhea of the penis, and who had practiced Sodomy on a fellow prisoner.

The eyes of other persons may become involved through the careless use of towels, utensils, etc., which have become infected through use by the patient.

Gonorrhea is not unfrequently found in children of both sexes, contracted in some cases by indirect contact; in others by nurse girls suffering from gonorrhea inducing their male charge to perform the sexual act with them. In the case of female children rape is sometimes done by men who labor under the superstition that if they can have intercourse with a virgin their attack of gonorrhea will disappear.

In the light of the foregoing facts, all physicians should regard gonorrhea as one of the most serious diseases which we are called upon to treat, and they should instruct all their patients that it must under no circumstances be regarded lightly. Sexual intercourse should be prohibited until

repeated examinations of the secretions both of the male and female genitals show absolute freedom from the gonococcus after careful microscopic search.

An easy method of microscopic examination is the following: Take a cover glass and apply some of the suspected pus. Let this dry and scrape with a glass slide until a very thin layer of the secretion remains. With a dropper apply methylene blue and pass over the flame of a spirit lamp for one to two minutes. Then wash off the excess of stain with alcohol, put a drop of Canada balsam on a clean slide and apply the prepared cover glass. Examine with a one-twelfth inch oil immersion lens. The gonococci will be found stained a deep blue, lying free and in the pus cells. In some instances only after long careful search can the gonococci be found still inclosed in the pus cell. These cocci measure 1.25 micro-millimeter in diameter and are usually arranged as diplococci. One of their most striking features is their ability to penetrate cells and rapidly multiply within them. It is only by the strict observance of the above rules that the spread of the disease can be checked, and a great deal of unnecessary suffering avoided.

Regulation of the Galvanic Current—Electrode-Rheostat and Electrode-Commutator.*

By B. Pirosh, M. D.,
Professor of Electro-Therapeutics, Chicago Clinical School; Attending Physician at the U. H. Ch. Free Dispensary.

Gentlemen:—Anyone who appreciates more or less the complex and manifold physiologic manifestations of the electric current, which at one time behaves like morphia, and at another like strychnia; which on one occasion produces the results of atropia, and by modifying the application of the electrodes brings about the action of pylocarpin; anyone who realizes the fact that it is a remedy which at the will of the operator induces a condition either of hyperemia or anemia of any organic tissue; anyone, I say, who is aware of all this will not hesitate to justify the propriety of assigning to it a special place both in the book and college, and not to be considered or discussed among the rest of medicinal remedies in general therapeutics.

And although there seems to be a constant tendency on the part of our schools to appreciate, more or less, the above facts, it appears, however, that the inadequate and inefficient system of teaching in our medical schools is responsible for the loose education of the general practitioner in electro-therapeutics. It is a matter of every-day observation that in the equipment of an electric cabinet the physician is rather guided by the instrument maker than the latter by the former; and just as with any other article of domestic furniture the external beauty and appearance are often the main, and, with others, the sole features that impress the buyer at the time of making his purchase on electric appliances. The electric battery, as it is furnished now by the instrument maker, is one of the most expensive instruments, and the heavy cost, we must take into consideration, is principally due to the complicated switch-board mounted on it. This switchboard, again, with all its numerous metallic buttons, knobs and clamps, should serve the purpose of regulating the current. In this connection three questions arise: 1st. Do we derive the benefit from the switchboard in proportion to its cost? 2d. Can the switchboard be easily superseded by anything else? 3d. Does the switchboard answer the purpose of regulating the current at all?

As an answer to the last question I most emphatically say no, and since the benefit we may expect from a battery is in direct proportion to the facility with which it is regulated, it naturally follows that the first, like the last, is answered in the negative, while the second question is to be answered in the affirmative. Our objections toward the regulation of the current by means of the switchboard or "Cell collector" seem to us grave for the following reasons: 1st. The numerous metallic contacts on the switchboard and the 40, 50 or 60 wires (according to the number of cells in the battery) running from each cell to a metallic button of the cell collector cause constant anxiety to the physician, that one or the other of the many different contacts doing service to-day may fail to do the same to-morrow.

*Lecture delivered before a class at the Chicago Clinical School.

2d. The cells, being regulated by the cell collector, are not used up equally, the first few are used in each case, while the successive ones are used with less frequency, according to the number and character of cases under treatment where a current of more or less strength (amperage) is indicated. The consequence of the above stated is that the strength of the various cells, according to their use, in a given battery is not of the same value; the cells, therefore, do not represent a "unit" any more and the regulation of the current is, certeris paribus, not a steady one, but fluctuates irregularly, a very unpleasant and at times a very harmful outcome. 3d. It happens, and not so very seldom, that for one reason or another the resistance in some cells of the battery increases by 100, 200, 500, or even more, Ohms, resulting in (a) a very heavy and sudden fluctuation of the current, and by applying the electricity on the head will be followed by an unnecessary and unpleasant irritation, sparks from the eyes, and may even cause a fainting spell; (b) instead of an expected increase we may get a decrease, and vice versa. Let us illustrate it by an instance: Suppose cell 15 is in such a condition that the liquid in the jar is dried out to a great extent, so that the plates scarcely touch the same. Again, the salts contained in solution before crystallized to such a degree that they nearly touch both plates, causing a short circuit in the jar. The resistance, therefore, on account of shortening of the surface-contact between the plates and the liquid, and on account of branching-up the current due to crystallization of salts in the jar, will increase, let us say, to about 1,000 ohms. And now supposing that a normal cell of a battery has one unit of electromotive force (voltage) and five units of resistance (ohmage), the human body in our instance shall represent a resistance of 2,000 ohms. So the strength of our current, by including fourteen cells, will be equal to $\frac{14+1}{70+2,000} = 0{,}0067$ (I drop the rest of the fraction for the sake of abbreviation). Now, by including the fifteenth, the spoiled cell, you will get a strength equal to $\frac{14+1}{70+1,000+2,000} = 0{,}0048$. As you see, fourteen cells give a much stronger current than fifteen and the addition of the fifteenth cell, instead of the expected increase, resulted in a heavy decrease, the fluctuation at the same time amounting nearly to 30 per cent. Finally, having the regulator of the current attached stationary to the battery, we are always compelled to carry the patient to the place where the battery is located, at times causing inconvenience, especially in hospitals.

I hope to have convinced you that this mode of regulating the Galvanic current is not a pleasing one; but nevertheless the most known and commonly used by the majority of the general practitioners. How shall we then regulate the current otherwise is the question which arises now. The knowledge of elementary physics will once more bring about the desired relief. You are well aware of the law of ohm, you know that the Intensity of the strength of the current is equal to $C = \frac{V}{}$. You have therefore a fraction where the numerator is represented by Voltage and the denominator is Ohmage (resistance). Now, the mode of regulating the current by means of addition and exclusion of cells, i. e., the way of modifying the fraction by affecting the numerator, is, as proven, a faulty and an unfavorable one; let us try, then, to regulate the current by means of affecting the denominator, i. e., by means of including and excluding resistance out of the current; in other words: the regulation of the current by means of the rheostat. Indeed, by using the rheostat we do away with all the objections stated before in regard to the cell collector; using the rheostat all the cells of the battery are coupled in "tandem" and are included in the current; you do away with the cell collector, you do away with the forty, fifty or sixty wires running from the cells to the collector, you do away with the care for the "prosperity" of the superfluous contacts. Using the rheostat, we use all the cells of the battery equally, the objections of a possible non-uniformity of the "units" falls off, eo. ipso; and even by admitting that in a given battery the cells are not uniform, even in case the cells in a battery are of different make and system, let us say a battery composed of five cells of Lechanche, ten of Meidinger, twenty of Grenet and twenty-five of Wolf's dry cells, cells of different voltage and ohmage, even then, I say, we will have no different fluctuation whatever; since the

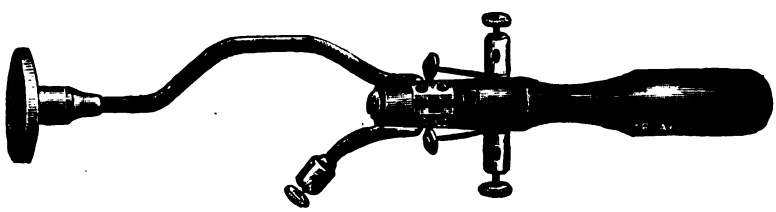
units, while using the rheostat, are no more then cells but the resistance, then, at length, can be no way of causing fainting spells, sparks from the eyes, unpleasant irritation or fluctuation in case one or more cells be unexpectedly out of order and thereby greatly increase the resistance, for the simple reason that, if the interval resistance of the cells should increase, the final result of the amperage will be brought upon by excluding as many resistances accordingly from the rheostat. And since the rheostat is portable there is no necessity of carrying the patient to a special room where the battery is located; it is sufficient to provide each ward in a hospital with two wires from the battery and to include the rheostat in the circuit.

There still remains one objection common to both, switchboard and rheostat, namely, they are independent appliances. And since it is of great importance and a well recognized fact that the electrodes are to be handled by the operator himself, and never to be trusted to the patient, you must have someone to direct and adjust either the cell collector or the rheostat, in order to regulate the current; you must have assistance, not always available and sometimes undesirable.

For this reason I constructed a combination of a rheostat and electrode. I will briefly describe their construction.

The rheostat consists of a hard rubber drum with thirty-one perforations, thirty of which contain resistance in the following proportion: Eight at 500 ohms each, six at 1,000, four at 1,500, four at 2,000, two at 2,500, two at 3,000, two at 3,500 and two at 4,000 ohms each (the division of the resistance is made empyrically so as to have a gradual fluctuation), comprising 50,000 ohms in all; the thirty-first perforation does not contain any resistance and is filled with a metal rod. Each and every compartment stands in metallic contact so that a thin wire runs from the lower part of the first to the upper part of the second, from the lower part of second to the upper part of the third, and so on up to the thirty-first, which is in metallic contact with the clamp, d, which is designated to make the connection with one of the wires of the battery. The drum is mounted on a plate of the electrode, h. Between the drum and the disc, h, a metal strip is fastened movably so that by pulling or pushing the hard rubber button, e, it touches simultaneously one of the lower surfaces of the compartments in the drum, and so

Electrode-Rheostat.



Electrode-Commutator.

switches in or out, resistance. There is a dial on the top of the drum where a hand indicates the amount of resistance included in the circuit, hence the direction of the current is as follows: From the battery to the clamp, d, from d to the metal strip, from the metal strip to one of the compartments with which it is in metallic contact, from the lower part of the compartment, through the resistance to its upper part, and from there by means of a metallic wire to the lower part of the next compartment, etc., through the electrode, c, to the body of the patient, or vice versa.

But in order to free the physician entirely from assistance it is necessary to abolish another apparatus as an independent part, i. e., the current changer, and this is represented here by my electrode interrupter and changer.

I omitted to cite a point showing the preference of my combined rheostat and current changer with the electrodes. It is that sometimes for diagnostic purposes it is indicated that the patient shall not notice the change performed by the operator, be it for increasing, decreasing, interrupting or changing of the current. Having the instruments on the table you cannot very well avoid the attention of the patient, but having them combined with the electrodes the patient notices only the result without being prepared for a change.

*For sale at Truax, Greene & Co., Chicago.

Chronic Postnasal Catarrh.

By G. F. Hawley, M. D., Chicago,
Professor of Laryngology, Rhinology and Otology in the Chicago Clinical School; Professor of Physiology and Hygiene of the Voice in the Soper School of Oratory.

The title "chronic postnasal catarrh," or chronic nasopharyngitis, is applied to a low grade of chronic inflammation located in the postnasal space. The condition is found at all periods of life, from the nursing infant to the nonagenarian. It is so prevalent in America that it has been entitled by Mackenzie and others "American catarrh." Whether this prevalence is due to climatic influences, or to predisposing factors in those living on this side of the Atlantic, is a mooted question. That postnasal catarrh may be associated with a neurotic diathesis due to degeneracy, and also to intrautero-vaginal states, can hardly be questioned. The functions of life are more or less easily disturbed in such cases, resulting in a predisposition to all types of disease, especially those affecting the glandular system. It is particularly noticeable in the torpid and erethistic types of the tuberculous diathesis, characterized by very light or very dark hair, light or dark eyes, a dark, pallid or light complexion, much perspiration, small blood vessels, slow, feeble or rapid pulse, and want or excess of energy in mental and physical functions.

Nowhere is there a richer supply of glands than in the postnasal space, hence this is naturally affected early by the condition mentioned. In nearly 90 per cent of all chronic catarrh this space is affected. It has been claimed that a perfectly healthy postnasal space can hardly be found in this country.

The far-reaching and baneful effects of this disease cannot be questioned, since many secondary disorders affecting the upper air-passages and bronchi are due to postnasal catarrh. It is the bete noire of the singer and public speaker. It is a frequent cause of suppurative and catarrhal inflammation of the middle ear, both in the young and old, and frequently causes deafness in after life. This constant state of inflammation disturbs the circulation, and by causing congestion and hypertrophy of the turbinates prevents free drainage and obstructs to a greater or less degree the passage of air through the nose.

The causes of this disorder are divisible into predisposing and exciting. Judging from the extensive and early manifestations of this disease, the predisposing causes are inherited or congenital from maternal leucorrhea, etc. The exciting causes are sudden changes of temperature and diseases affecting the upper air-passages, such as measles, scarlet fever, diphtheria, etc. The symptoms are so well known that it is hardly worth while to repeat them here.

The clinical aspect of the disease varies according to the age of the patient and the duration of the trouble. In the early stage, particularly in the young, the postnasal space is frequently found more or less filled with masses of tissue, giving to the touch a sensation similar to that of angleworms (adenoid growths of Meyer). This mass is easily broken down and exceedingly vascular. Later on, instead of masses of tis-

sue, isolated growths or nodules occur, more or less evenly distributed over the vault, distinct and independent of each other. These also in the early stage of the disease are exceedingly friable. Later these growths become fibrous in character and are difficult to remove. This form of the disease is usually associated with granular pharyngitis. Often, as in cases of old chronic suppurative inflammation of the middle ear, the mucous membrane appears swollen and soggy. Again, the mucous membrane, though generally healthy in appearance, presents in the median line folds of hypertrophied tissues. These are parallel to each other and run upward from behind the soft palate to the vault. In all of these conditions the mucous membrane is highly congested, causing that sense of fullness so distressing to the sufferers from this disorder.

I have also found at the median line and near the vault single cystic growths or swellings about the size of a split bean, smooth to the touch, and with the sides gradually running into the adjacent mucous membrane. These are easily destroyed by the finger, exposing a pocket-like depression with smooth, hard walls. Occasionally the mucous membrane is covered by highly vascular granulations, which, though hardly visible on examination, give to the finger a sensation as if passing over velvet or plush. All these abnormal conditions not only prevent a cure, but cause the many distressing symptoms associated with this form of the disease. The importance, therefore, of a thorough examination and treatment of the postnasal space in all catarrhal affections of the upper air-passages cannot be too strongly urged upon the profession. In no other way can the practitioner expect to accomplish permanent good, as in this locality the causes which keep up the inflammation are found.

The prognosis is good if seen in time and treated properly. If not, the condition gradually grows worse, affecting the neighboring parts and producing ear complications, and finally inflammation of the pharynx, larynx, and bronchial tubes. Disturbance of circulation caused by these conditions frequently leads to a gradual occlusion of the nose by thickened mucous membrane. Thus its natural function is almost entirely destroyed, causing mouth-breathing with all its ill effects. The treatment should be constitutional, surgical and local.

Constitutional treatment depends upon the condition of the individual. It should build up and support the general health. Few cases of postnasal catarrh can be cured or even relieved without surgical interference, which includes the removal of all outgrowths and diseased tissues. Local applications, in whatever way applied, should be cleansing and stimulating to the parts affected. Up to the present attempts to cleanse and medicate the postnasal space have proven unsatisfactory. The anatomical relations of the parts are such that to thoroughly cleanse and medicate the diseased tissues by any instrument in use is practically impossible. It is due to this fact, more than to the obstinacy of the disease, that a larger percentage of cases are not cured. The spray is the best means to accomplish this end. As generally used by the profession it is open to serious objections. While the atomizers furnished by the instrument-makers may thoroughly cleanse the anterior chamber of the nose and the pharyngeal walls, they can force but little medicament into the postnasal space in the form of spray. The spray soon becomes a stream which flows along the inferior meatus until it either falls into the pharynx, or by the aid of the soft palate passes into the adjacent nostril. On account of the extreme sensitiveness of the mucous membrane lining the nasal passages the practitioner is, moreover, restricted in the selection of medicaments and in their strength. Silver nitrate, for example, one of the best remedies in treating postnasal catarrh, can be used, if at all, only in weak solutions, on account of the strong reaction produced in the nose. The nose, whether healthy or diseased, must receive the full effects of all medicaments alone intended for the postnasal space. If the attempt be made to spray back of the soft palate, the time allowed for the treatment is so short from gagging of the patient that but little effect can be produced upon diseased tissues. The same objection exists to the use of powders. The brush is not only disagreeable to most patients, but gives unsatisfactory results as well.

One object of this paper is to describe an improved instrument (Fig. 1) which overcomes many of these difficulties. It is so constructed that it can be inserted

through any nostril, no matter how small, until it reaches the postnasal space, where a medicament by means of a spray can be applied directly and forcibly against the entire diseased surface. The strength of the medicament is graduated by the amount of spray used, which again is gauged by means of a small set-screw at the head of the bottle containing the medicament.

The same difficulty is found in treating the larynx as in treating the postnasal space. Whatever medicament is used the act of applying it causes immediate spasmodic contraction of the larynx and prevents all attempts at treatment. Sprays as generally used are practically valueless, while vapors must be of such dilution that their utility

FIG. 1.

is much diminished, if not destroyed. The only means by which good results can be obtained is by direct application to the parts with a brush or cotton carrier. These, however, hardly enter the larynx before spasmodic contraction takes place, the medicament is forced from the brush or carrier and the applicator is at once covered by the secretions. All attempts to overcome this contraction by force so as to apply such medicament as may remain are made at the risk of injury to the surrounding soft parts. It is due to this fact that cocain is an anesthetic in treating the larynx has proved so unsatisfactory. While it paralyzes the pharynx and thereby gives a better view of the larynx, still on attempting to use a brush, contraction at once takes place. It is only by a slow and tedious process that the larynx can be anesthetised by cocain, tiresome to both physician and patient. In endeavoring to overcome these difficulties I devised an additional tip (Fig. 2) to the instrument described above. It resembles somewhat a Eustachian Catheter, but has a longer beak; its end is so perforated as to throw a full and fine spray directly into the larynx. The beak will pass beyond the constriction caused by the spasm, and if properly used will cause little, if any, irritation. A solution thus applied will spray the larynx until the diseased surfaces are thoroughly cleansed and medicated.

This does not usually cause as much irritation as the old method, while the results are much more satisfactory. A case in point, Mr. A., about fifty years of age, has for the past year suffered from chronic laryngitis. After nine months of treatment in the usual manner with no apparent relief, he was told by his physician, one thoroughly competent to advise, that nothing could be done for him unless he refrained from using his voice, giving it at least a month's complete rest. This he was unwilling to do, stating that public speaking earned his bread and butter. When I first saw him the pharynx and larynx were congested, inflamed and exquisitively sensitive. The vocal cords were swollen and congested, while the ventricular bands, also congested and inflamed, overlapped them,

the voice being reduced to a hoarse whisper. The whole larynx presented a typical picture of chronic laryngitis. The treatment, as far as medicaments went, differed but little from what had already been used, only I made sure that the spray reached the parts affected so as to thoroughly medicate them and not, as is too often the case, have the applications confined to the epiglottis and adjoining parts. This was accomplished with this instrument. Daily treatments were made, together with such constitutional remedies as the case required. In one month the voice was nearly normal,

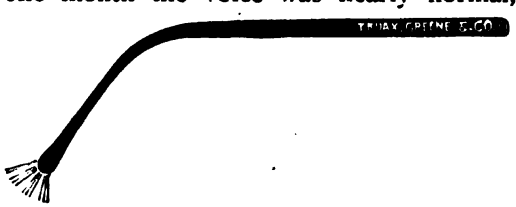


FIG. 2.

and in two months only a slight redness of the vocal chords was visible. During the entire treatment he continued using his voice in spite of advice to the contrary.

While I fully appreciate the fact that the value of this or any instrument as a means of treating the postnasal space, and larynx can only be established by a thorough trial, still the results obtained must raise the question, whether the resistance of chronic diseases of the larynx and postnasal space to treatment is not due more to the manner in which it is carried out than to the obstinancy of the diseases themselves.

Phimosis in the New Born.

By J. N. BARTHOLOMEW, M. D.,
Professor of Surgery, Chicago Clinical School.

What should be done with the baby's foreskin? The Jews say, "cut it off." The Gentile says "let it alone." Some say push it back over the glans, while others, say don't touch it. Let it alone.

We have been so frequently called upon to operate upon older children for the correction of various abnormalities of the foreskin, a large proportion of which operations could have been avoided by proper management at birth, that I am induced to make a few suggestions in reference to the management of the prepuce in the new born.

The normal condition at birth is one of phimosis. By this term is meant a condition of the prepuce in which the orifice is so small that it will not admit of being drawn over the glans. It may be contracted to a degree that it will not admit of the passage of the smallest probe.

Phimosis is the normal condition at birth, and is frequently associated with adhesions. The adhesions being the continuation of the intra-uteine agglutination caused by the retarded development and condensation of the cells of the rete malpighii. These adhesions are very slight at birth and can be separated with the greatest ease. It is an unusual experience to see a child at birth in which the foreskin will glide readily back over the glans. When phimosis is present without adhesions it tends rapidly to a cure without operative interference. In this case the cure is brought about by repeated erections of the organ. During every erection, when phimosis exists without adhesions, the os preputii is put upon the stretch, more and more dilitation taking place with each erection until at last the orifice is sufficiently dilated to allow the head to pass.

When adhesions are present an entirely different phenomenon takes place. When adhesions are present and an erection takes place, the skin, being unable to unfold and roll back over the glans as the head advances, is carried with the glans, and is stretched to the utmost, to roll in upon itself as the erection subsides; each successive erection stretching and elongating the preputial tissue more and more. And thus it is that a phimosed adherent prepuce is almost invariably an elongated prepuce, as we meet them a few months or a few years after birth. An elongated prepuce is a most natal development; occasioned by the preexistence of phimosis and adhesions and its development may be prevented by attention to the pathological condition at birth.

As an evidence that the elongated prepuce is the result, of forces acting as I have described them, and not the product of growth. I call your attention to the fact that the elongated prepuce is made up almost wholly of cutaneous tissue, the mucus membrane not being correspondingly elongated, as would be the case if it were the result of growth alone.

If then, a long prepuce is the result of the existence of phimosis and adhesions at birth and is a development after birth, the natural

prophylaxis is to destroy the adhesions and overcome the phimosis as soon after birth as practicable, before elongation has taken place. That the physician should look after the condition of the prepuce in every new born babe is a proposition that will admit of no discussion. That he has not done his full duty to the infant until he overcomes the phimosis and breaks up any adhesions that may exist is, I believe, equally true, because to allow this condition to remain permits of the accumulation and retention of secretions and filth within the cul-de-sac which not only give rise to discomfort and restlessness of the child but to a variety of reflex nervous disturbances occasioned by irritation of the genital nerves.

The condition of phimosis can be overcome in a patient of almost any age by exercising a little patience and gentle traction upon the prepuce, interruptedly in a direction backward over the glans. The taxis only requires to be gentle, interrupted and perservering. In the new born it is usually accomplished within a minute or two with the greatest ease to the operator and scarcely any pain to the patient.

It is very rarely, if ever, necessary to resort to the more radical measure of circumcision. Before resorting to this procedure it is necessary to decide upon the desirability of a covered or an uncovered glans. It should be remembered that the foreskin is the natural covering of the organ and is intended as a protection to the sensitive genital nerves which are confessedly the most sensitive of any in the body. To obtain the most desirable condition is to secure a prepuce moving freely over a perfectly healthy glans. This condition can always be accomplished if begun early in life even in the most contracted and adherent prepuces, and, being equally efficient and much the simpler should always be the operation of choice. With a little patience and care the foreskin can be stripped back over the glans, and if any adhesions are found they will be mere agglutinations and will readily yield. The foreskin should be carried well back over the corona, any secretion found should be removed and the parts cleansed. The foreskin should be made to glide readily over the glans and the nurse should be instructed to keep the parts clean and the child when old enough should be taught to wash the parts beneath the foreskin daily for the remainder of his life. This method although not new is recommended for its simplicity and efficiency, and if followed, will prevent the development of the elongated prepuce and will leave very few if any cases in which the more radical operation of circumcision is necessary.

I very much doubt if the mutilating operation of circumcision which necessitates the destruction of the entire prepuce is ever the operation to be selected in the new born. It has long since been pointed out that a progressive sclerosis of the glans occurs after circumcision in children and frequently a contracted meatus and balanitis follows.

The absence of the prepuce is no more likely to prevent masturbation; it is no more hygienic; it is no better protection against contagion. On the contrary it leaves a zone of cicitricial tissue which is always the tissue which furnishes the least resistance to infection.

For these reasons I believe the prepuce, when it can be made freely movable should be retained.

Treatment of Tuberculous Ankylosis of the Hip Joint.

By Dr. Alex C. Wiener, Chicago.

The term ankylosis to-day should serve for the immobility and stiffness of the joint, which are produced by pathological changes therein. Contraction of the joint, on the other hand, so frequently seen, is the result of a mere shortening of the soft parts surrounding the hip-joint, fascia lata, muscles, nerves and vessels. Although Phelps has shown by experiments on animals that after a month's complete immobilization of the joint no stiffness could be produced, yet it is a well-known clinical fact that the fascia lata, by partial flexion and adduction of the limb, grows absolutely unyielding. Oftentimes it is difficult to properly differentiate both affections, and it is left for a deep chloroform narcosis or the hypnotic sleep to reveal the true cause of the stiffness.

Having established ankylosis as the cause of the stiffness and faulty position of the hip-joint, there are two questions arising which are of equal importance in the further steps to be taken: (1) The character of the ankylosis, whether fibrous or osseous. (2) The etiology of the morbid changes inside the capsule, which is by no means irrelevant to the prognosis.

The ankylosis produced by chronic tubercular inflammation of the joint outnumbers so far that brought about by other causes that I have restricted my remarks to the tubercular infection.

Both fibrous and osseous ankylosis have in common the faulty position of the limb to the axis of the body, with flexion, adduction (rarely abduction) and eversion. These combined factors produce a more or less apparent shortening of the leg and necessitate so much tilting of the pelvis that walking becomes quite difficult and irksome. The patients severely limp. The consecutive changes of the soft parts, atrophy and shrinkage of the muscles, are then a matter of course. The sarcolema of the muscles being cut short of arterial blood supply, speedily undergoes fatty degeneration and the muscles degenerate into unelastic, fibrous strings. As a rule, the morbid products thrown out by the action of the tubercle bacillus become organized into connective tissue, and this constitutes a sort of spontaneous healing. The capsule first becomes thickened, then it gradually shrinks, obliterating all sinuses and folds, which are essential to the free mobility of the joint. The opposing articular cartilages, at first inflamed and succulent, become agglutinated to each other, undergoing retrograde changes. As time goes by, these adhesions become very firm and may necessitate quite forcible handling of the joint to break them down.

Bony ankylosis, of course, is the outcome of quite an extensive destruction of bone and is often complicated with fistular openings around the joint or with gravitation abscesses.

It is for the improvement of the gait and the shortening of the limb that patients seek the surgeon's aid. The best therapy would have been the avoidance of the deformity from the start. In time the cause of the disease is overshadowed by its unfortunate result—deformity. Therefore, make it an iron rule, by all means, to correct the deformity of the limb, adduction, flexion and eversion, as soon as the patient is placed under your care, regardless of the state the hip-joint may be in, provided there is no mixed infection present. I am well aware of the opposition with which this advice will be met. Does not as eminent an authority as Watson-Cheyne of England recently state that no one would ever think of immediately straightening a hip or knee joint during any change of tuberculous activity?

Again remember the number of hip-joints forcibly mobilized every day and that fatal results arising from the disseminating of tubercular germs all over the system must be asserted to be very rare. All these anticipations smack too much of the studying lamp to warrant us in depriving hopeful youths of the joys and the usefulness of life, which is spoiled by the material shortness of one limb, from the fear that one patient in a thousand may perish from miliar tuberculosis.

TREATMENT OF FIBROUS ANKYLOSIS.

Given a case where the tubercular inflammation has been latent for over a year. The apparent shortness is one and a half inches. It is composed (a) of the flexion of the leg to about 35 degrees; (b) by the adduction, which forces the patient to tilt his pelvis, thus producing the well-known awkward and tiresome gait.

In order to exclude the possibility of a bony ankylosis and to facilitate the final mobilization, it is well to prepare the patient for at least a week previous to the operation. First, a hot bath once a day, increasing the heat gradually from 97 to 102 degrees; also the duration from 5 to 30 minutes. In weak and much consumed patients the pulse is to be carefully watched. A glass of milk or broth is to be given right after the patient has entered the tub. At the least sign of weakness of the heart the bath is to be interrupted at once. Subjective symptoms—a little faint feeling, black or firy spots before the eyes—do not count so much as the quality of the pulse and the color, temperature and expression of the face.

Second, permanent weight extension, varying according to the age of the patient and his muscular development, from 2 to 12 pounds. The use of cotton flannel straps, which are tied to the whole length of the limb by simple roller bandages, are preferable to adhesive plaster. The former are more easily removed before the bath and do not excoriate the skin of the leg.

Third, elastic constriction around the hip-joint. It has recently been shown by Bier and others that by such an elastic constriction of an extremity, which still allows

a little arterial afflux, an edema is produced which possesses great bactericidal power. Constriction of the hip-joint with a rubber bandage has shown to me its great value in loosening up adhesions in a surprisingly rapid manner, supposedly by imbuing the adhesions with serous fluid.

The return of even a slight mobility then reveals the true character of the ankylosis, which is the more valuable, as the Roentgen ray, in this class of cases, produces doubtful pictures.

OPERATION.

The limb of the patient and hands of the operators are prepared with the same care as if to perform a cutting operation. In deep chloroform narcosis slowly and gradually the limb is forced in extreme flexion, which is followed by the hyperextension of the contracted fascia lata and the ileo femoral ligament. The adduction, as a rule, meets with the resistance of the tendons of the m. gracilis and the m. add. longus, which spring forward like the strings of a violin. They are readily severed with a tenotome. The knee is flexed again and all the resistance to rotation is slowly and gradually overcome. Force is never to be used. The joint has to be, so to speak, coaxed into mobility.

The limb is now ready to be immobilized in the correct position, viz., hyperextension, abduction and inversion. Rollers of sheet cotton are used instead of absorbent cotton, for the reason that the latter does not wrinkle, thus producing decubitus. The plaster-of-paris dressing has to extend from the half of the thigh to the arch of the ribs, the resting points being the spinous processes. Care has to be taken to snugly fit the dressing with the modeling hands. There is nothing more harmful in this operation than undue haste. The dressing is to be strengthened with pasteboard or fiber strips.

AFTER-TREATMENT.

The shock of the operation is a comparatively great one. The pain is lively in the first twenty-four hours. High temperatures are the rule, but are not of any significance as long as the pulse remains below a hundred and the skin is soft and pliable. Gastric disturbances, profuse diarrhea or obstinate constipation are to be treated accordingly. The pelvis is to be elevated at once, so as to maintain the hyperextension of the leg. The weight extension should be added after the acute symptoms have subsided.

I have not as yet experienced any dissemination of the tubercular virus, but I may at any time. As the relatives are inclined to take this serious operation lightly, because no cutting is done, they should be informed of the possibility of disaster following the correction.

Four weeks after the first dressing is removed the joint is passively moved, and in a still better corrected position the second dressing is applied, in which the patient is allowed to walk about with the aid of a cane. Crutches are not advisable, for it is the formation irritation of the weight of the body which is aimed at for the reconstruction of a useful joint.

The supreme law for all tubercular cases, that the treatment is to be carried out in the open air, is under no circumstances to be lost sight of. In compliance with this axiom I make use of my permanent extension apparatus whenever the irritation of the joint continues to exist longer than eight weeks.

100 State st.

The Work of the Trained Nurse.

ANNIE HEWITT BYRNE,
Superintendent of the West Side Hospital and Training School for Nurses.

I.

SCARLET FEVER.

Scarlet fever from the old Italian *scarlattina,* (red) is one of the most common affections of childhood. It occurs more frequently in the autumn and between the ages of two and ten years. The disease is highly contagious, and may be communicated to susceptible subjects by contact with the skin or breath of the patient, or by the clothing, furniture, toys, letters or food from the sick room. It may also be carried in the clothing of the physician or nurse, or even by domestic animals.

The vitality of the germ is remarkable. It may lie dormant in clothing, books or furniture, or in the cracks and crannies of walls or floors for an indefinite length of time, but when aroused into activity by suitable surroundings, this miscroscopic organism vivifies and rapidly reproduces

itself, is taken up by the circulation and disseminated throughout the tissues, secretions and excretions of the body. This period, known as the stage of incubation, lasts from one to six days.

The first symptoms of the disease are intense headache, sore throat, nausea or vomiting, high fever, bounding pulse and dry skin. Within twenty-four hours the rash manifests itself, appearing first on the neck, face and chest, and rapidly spreading to the trunk and extremities. It consists of minute red spots, so closely crowded together that the skin appears a uniform bright red. The tongue, at first reddened at the tip and edges and covered with thick white fur, now takes on the characteristic "strawberry" appearance, the enlarged deeply red and shining papillæ standing out above the coating; the lips are dry and cracked; the throat is red and painful and deglutition is difficult.

When the symptoms first appear the child should be given a warm bath and put to bed in a separate room. It should be lightly covered with a sheet and blanket, kept as quiet as possible and given liquid diet in small quantities.

When the rash appears and the disease has been fully determined special attention must be given to the nursing, as the successful termination and the avoidance of complications depend largely on the conscientious carrying out of the physician's orders. The patient's room, situated preferably at the top of the house, should be kept at a temperature of 65 to 68 degrees F., and well ventilated. All upholstered furniture, drapery, carpets, etc., should be removed from the room, and members of the family and visitors should be strictly excluded.

The daily bath should be given under the blanket, every care being exercised to avoid exposure to cold or draught, especially during convalescence, when the skin is especially sensitive. If its action is checked the extra work thrown on the kidneys may induce nephritis, a most serious complication. For this reason even the mildest cases should be kept in bed and protected from exposure. The inunction of the body once or twice a day with olive oil, vaseline, cold cream and glycerine or cocoa butter tends to allay the intense itching and stiffness of the skin, promotes sleep, serves to limit further infection by preventing the diffusion of the desquamating and very infectious cuticle from floating about in the atmosphere, and protects the surface from the influences of sudden changes of temperature.

When the fever is high—103 to 106 degrees—some of the forms of hydrotherapy is generally resorted to for the extraction of the heat of the body, viz., bathing the hands, face and extremities with cold water, cold sponge baths, affusion, cold or graduated tub baths, the cold pack or the ice coil.

In giving the cold pack a rubber sheet and blanket should be spread upon the bed and over them a sheet wrung out of cold water. The naked child is then enveloped in it and wrapped in the blankets. The preliminary chilling is soon followed by a glow of heat and the blankets may be unfolded from time to time and the sheet sprinkled with cold water. The patient may be left in the pack from twenty to forty minutes, and it may be repeated every three or four hours if necessary. This treatment not only reduces the temperature, but allays the delirium and restlessness and induces quiet and refreshing sleep.

The addition of a little bay rum or alcohol to the water used for sponging increases the effect by promoting evaporation, and consequently the rapid dissipation of heat.

The use of the ice coil is particularly beneficial and is easily manipulated. The coil of rubber tubing is adjusted about the patient's head, one end is placed in a reservoir containing ice water at such distance above as may produce the desired current, the other end being placed in a receptacle on the floor. The colder the water and the faster the current, the more rapid will be the abstraction of heat and the consequent lowering of temperature.

The mouth should be washed several times daily with dilute boric acid, and the throat gargled or sprayed, if inflamed or painful, as may be prescribed. Cold or hot applications to the neck often give great relief; the cold compresses being perferable if the child will tolerate them.

The diet is very important. Sometimes when the throat is very painful the nurse must use her ingenuity to make it attractive and appetizing, that the patient may be induced to take the necessary amount. It should be liquid until the fever subsides; milk, milk and lime water, barley water

with uncooked white of egg added to it, water and egg albumen, gruels, soups, beef broth, veal and chicken broth, and whey may be given, and the patient should be encouraged to drink water freely. When feeding by mouth fails, nutrient and predigested enemata must be resorted to, but they are not very well borne by children.

A mild purgative or enema may be given if necessary to obtain a daily movement of the bowels, which should be received in a vessel in which a solution of chloride of lime or other good disinfectant has been placed.

The urine should be carefully noted and a small quantity saved each morning in a clean vessel for the doctor's examination.

Everything that comes in contact with the child, as brushes, towels, sheets, clothing or dishes, should be kept separate and washed or disinfected by soaking in a solution of bichloride of mercury 1-1000 or carbolic acid 5 per cent, or boiled and aired before being taken from the apartments. A sheet kept moist with one of these solutions should be hung over the doorway to prevent the dust, etc., from escaping to other parts of the house, and it has an excellent moral effect.

A fire in an open grate will be found a most useful adjunct, not only as a means of ventilation, but in destroying myriads of germs that are given off from the body in the secretions of the nose and throat, sweepings of the floor, etc.

The time which a patient must be kept in quarantine will depend on the severity of the case, and the length of time the scaling and discharges continue. When the last branny scales have been removed, which will generally be from between the fingers and toes, he should be bathed with soap and water and then with a saturated solution of boric acid, or with peroxide of hydrogen in the normal saline solution, one part of the hydrozone to four parts of water.

The hair should be similarly shampooed and disinfected. The patient should then be dressed in clean clothes of washable material, and sent into another room for three or four days. During this time an inspection should be made every day, and if no scales or morbid discharges appear, the temperature and pulse remain normal, give another cleansing bath, followed by the disinfecting bath and shampoo, disinfect the mouth and teeth, spray the nose and ears, clean the finger and toe nails, then dress him in a fresh suit, shoes included, and we may be reasonably sure that it will be safe for him to mingle with the rest of the family.

To thoroughly cleanse and disinfect the sick room is a more or less difficult matter, according to the character of its furnishings and the care that has been taken of it during the patient's illness. If such things as carpets, unwashable curtains, upholstered furniture, pictures in carved frames, bookcases and wearing apparel, that catch and hold contagion, have been removed in the beginning, the work of disinfection will be considerably reduced and simplified. A broom should never be used in the scarlet fever room; all dust and other dirt should be picked up with a damp cloth wrung from a solution of bichlor. 1-1000, or a 5 per cent solution of carbolic acid. The remnants of food, fruit or refuse of any kind, including hair combings, should be burned in the sick room, and if there is no fire in it, then it should be closely wrapped in a paper and carried to the furnace or other place of cremation.

Should any part of the mattress be soiled with dried discharges, it is better and more economical to burn it than to try to render it sanitary. If cotton comforters have been used they should also be burned. All sheets, towels, pillowcases and blankets should be disinfected in a 5 per cent solution of carbolic acid and then boiled.

If cotton pillows are used, the covering may be removed and boiled, the mattress being treated in the same manner. Feather pillows should never be used for such cases. If they have been, the safest way is to burn them, or at least they should be thoroughly baked. This mode of disinfection may seem very extravagant, but it is better economy than to permit a spread of the disease.

If the walls of the room are painted they should be washed with an antiseptic solution or they may be cleaned off with rye bread, which should afterwards be burned. If they are kalsomined or papered, they should be soaked off with a bichlor. solution and retinted or papered.

It is still customary for the health authorities to fumigate rooms after cases of infection, although as this is usually done it is a very uncertain method of destroying

microbes. To be of value the windows, doors and other openings in the room should be thoroughly sealed, and the bedding, furniture, etc., placed in such a way that the sulphur fumes can reach every part of them.

All metals, such as door handles, brasses on beds, etc., should be disinfected with hot carbolic solution and then smeared with vaseline or some other grease to prevent them from tarnishing. For every thousand cubic feet of space three or four pounds of sulphur should be used. This is placed in an iron kettle with a few sticks of kindling wood, and the kettle is set on bricks in a tub or pan of water in the middle of the room. This measure not only insures safety from fire, but increases the efficiency of the sulphur vapors, which are more powerful in a moist than in a dry atmosphere. Pour a little alcohol on the kindling wood, then light, and leave the room as quickly as possible. Shut the door and seal it on the outside with strips of cotton or adhesive plaster pasted over the cracks. At the expiration of twenty-four hours the windows may be opened to allow the fumes to escape.

If the window cannot be opened from the outside, a strip should be left that may be quickly removed and damp gauze should be fastened over the face before entering the room to minimize the irritating effect produced by the inhalation of the fumes. After the fumigation, take up the dust and lint with damp rags and burn them. Scrub the floor with the antiseptic solution, taking care to thoroughly saturate every particle of dust in every crack and crevice of the floor. Leave the sick room unfurnished and unoccupied for some time if possible, allowing the fresh air and sunshine full access, not only to it, but to the whole house.

The nurse and all who have come in contact with the patient should subject themselves to a thorough cleansing and disinfection, taking a full soap and water bath and shampoo daily for at least three days, using the disinfecting sponge after each. The clothing worn should always be washable; even the shoes should be washed or burned.

In case of death from scarlet fever the body should be wrapped in sheets saturated in a strong carbolic solution, put into an airtight casket, which should not again be opened, and privately buried as soon as possible. Nurses and mothers cannot too highly appreciate the necessity of strict isolation and careful nursing in even the mildest forms of this treacherous disease. Not infrequently do we find slight cases becoming most severe. The sore throat may become diphtheritic, there may be inflammation of the eyes or of the ears, with permanent deafness, but the most serious and fatal complication which may come on even two or three weeks after convalescence is established, is disease of the kidneys, followed by dropsy and convulsions. Then, too, other children may contract the most severe form of scarlet fever by exposure to the mildest type. And let it always be borne in mind that "cleanliness not only lessens the danger of serious complications, which are often fatal, and mitigates the severity of an attack, but it is the great germ destroyer and prevents the spread of this great germ disease in households."

Principles Relating to Static Machine Construction

By R. V. WAGNER, M. D., M. E.
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Electricity is almost universally regarded as a mode of molecular motion, closely akin to light, heat, sound, etc., and the various kinds of electricity are merely various forms or modes of molecular motion. Galvanic or direct current, alternating current, Faradic current, etc., are modes of molecular motion, as manifested upon metals, fluids and conductive mediums of comparatively low resistance, while static electricity is a mode of molecular motion most manifest in gaseous substances. Indeed, it may be considered as a mode of molecular motion in the air, an atmospheric mode of motion, as a distinction between it and the other forms of electricity. Frictional machines, wherein the static current is developed entirely by friction, are no longer utilized for practical

Believing that a discussion of the relative merits of the glass-plate, mica-plate and rubber-plate types of static machines, conducted through the reading columns of this journal, will interest the medical profession, we shall endeavor to supplement Dr. Wagner's article with similar papers from the pens of advocates of the glass-plate and rubber-plate machines. Dr. Wagner is the manufacturer of the mica-plate type of static machine. His article is commenced in this number and will be completed in the January issue. In the February and subsequent issues the other papers will appear.

purposes, and all the modern machines depend upon induction for their generating capacity and upon friction merely as a means of developing sufficient current to start induction, so that all static machines now in the market for therapeutical purposes or X-ray work may be considered as induction machines, and some understanding of the principles of induction will throw more light upon static machine construction than a study of their mechanical detail.

The principle of induction is based upon the theory that all bodies or substances are composed of molecules or small invisible particles which possess the characteristic qualities and properties of the substance of which they are a part. All molecules have an affinity or attraction for each other, as is evidenced by gravity, adhesion, cohesion, etc. Consequently it will be easily understood how one molecule, when set in motion, would cause a motion in another at a distance without actual contact, by the attractive force existing between them. A demonstration of this may be made by suspending two magnets from a support by a string within attractive distance of each other, but far enough apart to prevent them from coming in actual contact. The magnets, by their attraction for each other, will hang out of plumb, and when one is moved a similar movement will be noticed in the other. The motions of the one moved by attraction alone will correspond to the movements of the one primarily moved. Thus by causing molecular motion in a substance, the molecules in another substance brought within the field of its attractive influence will be similarly affected.

However, if they are brought into actual contact, the molecular motion would be transmitted by conduction instead of induction. In a dynamo the fields are composed of magnetized iron, or iron in which the molecules bear an unnatural relation to each other. For example, we may assume that in a bipolar dynamo the molecules in a field would all point from the armature on one side and to the armature on the other. The armature being composed of conductors whose molecular structure is influenced through an affinity of the molecules in the iron, so that when a conductor is moved in close proximity to the field in which the molecules point from it, the molecules in the conductor would assume the same position, while at another instant, due to the revolution of the armature, the same conductor would be brought in close proximity to the field in which the molecules point toward it, and by their affinity for the molecules in this field would assume another position, which process, repeated rapidly, sets up a mode of motion in the molecular structure of the conductor, known as electricity.

In a static machine the same principle is involved. The molecules acted upon are those composing the air, the molecules in the air being separated by a plate of some good non-conducting material, i. e., material which will not transmit the molecular motion excited upon its surface to another part by conduction. The most common material used for this purpose in static machines, until recently, has been glass in the form of plates revolving in close proximity to each other, or to stationary plates mounted with armatures or inductors. It is a great advantage to have them revolve in very close proximity to each other, as this very greatly increases the induction. For instance, if the molecules on the surface of the revolving plate are acted upon from the molecules upon the surface of a stationary plate through materials intervening, the closer the surfaces are to each other the stronger the affinity existing between these molecules will be, and the greater their movement by induction. As illustrated in the experiment of two magnets suspended, the closer the magnets are to each other the more marked will be the movement of the one acted upon by attraction, while the further apart they are the less will be the movement of the one acted upon by attraction, corresponding to the free movement of the first magnet, whether acting upon each other through a plate of glass or through intervening space.

In the mica plate static machine construction the stationary plates are placed in direct contact with each other, and the revolving plates are made to revolve as close to them as possible, thus greatly increasing the inductive influence. When a static machine is constructed to generate electricity by induction between stationary plates and revolving plates, the induction takes place through the action of a tinfoil or a paper armature pasted upon the surface of the stationary plate. In order to set up induction between them it is necessary to excite

the molecular motion upon one or both of the surfaces, the exciting current used for this purpose, or, in other words, the initial molecular motion, is set up by friction, which is sometimes derived from another machine, or what is frequently termed a separate exciter, but in a self-exciting machine the initial charge is generated by the friction of small wire brushes mounted upon the collecting combs in such a manner as to come in contact with small knobs upon the surfaces of the revolving plates. The frictional electricity thus developed is generated more by the wires which compose the brushes coming together than by the friction of the wires rubbing against the knobs or surfaces of the plate. It is therefore only necessary to have the knobs upon the surfaces of the plate strike the brushes. When electricity is generated by friction in this manner the parts must be perfectly dry, as otherwise the molecular motion set up by friction would be at once overcome or absorbed by the moisture.

The great disadvantage experienced with the use of glass plates has been their tendency to collect moisture from the atmosphere and thus prevent the generation of the current by friction or induction. But mica plates overcome this, inasmuch as they have no tendency to collect moisture and will remain dry under all atmospheric conditions.

After the frictional electricity has electrified the surfaces of the revolving plates, a part of it is picked up by collecting combs made for this purpose and communicated to the armatures upon the stationary plate. These armatures are mounted upon the right and left hand sides of the stationary plates, the lower right-hand comb being connected to the armature on the right-hand side and the upper left-hand comb being connected to the armature on the left-hand side. The surface of the revolving plates, excited by friction, develop a negative charge, which is attracted toward the earth, thus favoring the collection of an inductive charge to the lower right-hand comb and communicating this to the armature upon the glass plate, which in turn acts inductively upon the surface of the revolving plate when in motion, thus developing a positive charge on this side of the machine.

It will sometimes be found, however, that the opposite armature will pick up negatively first, thus making the machine positive on the opposite side. Therefore, the polarity of the machine is liable to change from one side of the machine to the other after the machine has been standing at rest for some time. Although the right-hand side is nearly always positive in a machine with mica plates, and, as the natural tendency of mica is to be electrified negatively and that of glass to be electrified positively, the polarity of the machine will not reverse while it is in operation, and it is not necessary to use pole changers or devices for changing the connections from one side to the other, as is customary with the use of glass plates, which frequently reverse current while in operation. After the armature in the stationary plate has become electrified and the revolving plates are set in motion, the greatest amount of current is developed by induction upon the surfaces of the revolving plates opposite to the armatures, and at these points are placed collecting combs (which are the middle right-hand combs and the middle left-hand combs). These collecting combs are for the purpose of attracting the electricity and communicating it to the Leyden jars or to the terminals to be used in the application of the current. But as there is sometimes a great resistance between the two terminals in the external circuit, all of the current developed on the positive or negative side might not be collected, and that which remained would follow the plate across to the opposite side, thus neutralizing the charge of the machine, and to prevent this combs are placed at the upper right-hand side and the lower left-hand side. These combs are connected together so that the current not attracted by the collecting comb will be picked up by the equalizing comb and transmitted across to the opposite equalizing comb, without passing over and neutralizing the polarity of the machine. These equalizing combs thus prevent the machine from frequently losing its charge, which would have to be re-established by the friction of the brushes, and might possibly reverse the current. The length of spark capable of being generated by a machine depends principally upon the diameter of the revolving plates. In no instance can a machine throw a spark of greater length than one-half the diameter of its revolving plates. As one side of the ma-

chine develops positive current, and the other negative, the current would pass across the place from one side to the other rather than go a greater distance through the atmosphere to some other point, it being well known that electricity will take the path of least resistance. The length of spark also depends upon the speed at which the machine may be run, as a very low speed might not set up sufficient inductive influence to develop a high electromotive force. The volume of current depends upon the area of the surfaces being acted upon inductively and upon the speed at which the plates are revolved, as, for example, a small plate would only develop half the volume of current that one with twice its area would generate, other things being equal; or one plate being acted upon inductively would only generate half as much current as two plates of the same size being acted upon inductively, other things being equal. Thus, the number of plates and the speed at which they are revolved in a static machine governs the volume of current capable of being generated, while the diameter of the plates being used governs the length of the spark capable of being generated. The speed of the machine will increase the electromotive force up to a certain point, dependent upon the diameter of the revolving plates, and will increase the volume of current in proportion as the speed of the machine is increased. A glass plate 28 inches in diameter cannot be run over 300 revolutions per minute without great danger of being broken. Thus the generating capacity of a glass plate machine is limited to the number of plates employed and a speed of about 300 revolutions per minute, unless the plates be of much smaller size, which would decrease the volume of current and would not generate as high an electromotive force or as long a spark.

The principal object in using mica for revolving plates is to greatly increase the generating capacity of the machine, by virtue of the high speed at which they may be revolved.

A very high speed in a static machine is also most desirable on account of the nature of the current thus generated, which is of much higher vibratory or oscillatory nature, better adapted to X-ray work, as well as for therapeutical purposes, as will be set forth hereafter.

(To be continued.)

The Chicago Clinic.

A HIGH-GRADE MONTHLY PERIODICAL DEVOTED TO THE MEDICAL PROFESSION.

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CHANGE OF DATE OF ISSUE.

Beginning with the January number the Chicago Clinic will be regularly mailed on the fifteenth of each month.

MOSQUITOES AND MALARIA.

Some years ago that eccentric medical character, Emin Pasha, ruler of the "Equatorial Province," contended that he could escape the noxious malarial emenations of the night by sleeping under mosquito netting. Whether the doctor had a true suspicion of cause and effect, or whether he supposed the netting acted somewhat in a malarial atmosphere, as Sir Humphrey Davy's safety lamp does in fire damp, he has left us to conjecture.

The importance of a knowledge of the etiology of malaria can not be overestimated, for it must be remembered that the disease in question causes more deaths and more human misery than any other affliction. It renders unfit for habitation by the white races one-half of the globe—the better half at that. Immense territories, rich in soil, prolific in all natural productions, and perfect in climate, are rendered uninhabitable from this cause alone. It is a greater barrier to the exploration and occupancy of the tropics than all other causes combined. The virulence, the rapidity of invasion, the malignancy, the high death rate shown by tropical malaria, are scarcely appreciated by residents of temperate climes. The victim may die in the first chill and it is a very common occurrence for him to perish in the second or third. The disease is so rapid in its progress that there is not sufficient time in which to combat it after it makes itself manifest. Tropical travelers resort to prophylactic measures. A large dose of quinine is taken every day as a preventive. This may succeed for a time, but sooner or later he finds himself in the grasp of the dread destroyer. Stanley asserts that after six months spent in the Congo basin, one year's residence in the north is necessary to thoroughly free the system of accumulated malaria. The experience of the Dutch in Java shows that the white race is acclimatized with great difficulty.

For years the opinion prevailed that the cause of malaria was a tangible one—that it was due to a parasite. Announcements were made from time to time that the "bacillus" had been found. But such announcements proved to be premature. The germ is difficult of detection. Laveran demonstrated in 1880 that the disease is due to the presence of a hæmatozoon, to which he gave the name "plasmodium malaria." Subsequent investigations confirmed his observations. The organisms upon gaining entrance to the system attack the red blood cells, disintegrating and destroying them. The cells are destroyed much more rapidly than they can be produced—hence, the rapidly appearing anæmia. The "chill" corresponds to the liberation of a fresh crop of spores, or of toxin accompanying such liberation.

Of the life history of this organism outside of the human body, but little has heretofore been known. It has long been a matter of observation that extreme heat and abundant moisture are essential to its development. Marsh land in the tropics,

swamps, or even the ordinary surface of the land, when there are the necessary heat and rainfall, constitutes the proper condition by which it is developed. Malaria prevails to a greater extent at or near the sea level than elsewhere.

There is much clinical evidence to indicate that the poison is wind-borne, and is taken into the system by inhalation. A vessel three miles off shore is safe, if the wind is from the sea, but is not safe with the wind from shore. Wood-land, by acting as a wind-break, diminishes its severity. Stanley's expedition going up-river in Central Africa, with the wind astern, was comparatively exempt from fever, but coming down the river, against the wind, malaria prevailed with great severity. The long sweep of river, hedged in on each side by overhanging trees, seemed to act as a flue. When the government of the Congo Free State located stations along the river, Leopoldville, near Stanley Pool, was looked upon as especially promising, because of its altitude. But it is between two hilly elevations, and through this pass the wind is drawn from the malarial lands below, as through a funnel. It proves to be more sickly even than Banana Point. Facts and instances innumerable, bearing out this view, can be adduced.

Mosquitoes are very prolific and widely distributed. They are much more numerous in the semi-arctic and adjacent portion of the temperate zones, than in the tropics. The short Alaskan or Siberian summer is rendered unbearable by reason of their numbers and ferocity.

The eggs are deposited upon the surface of the water of pools or stagnant ponds, in the form of agglutinated masses. They float until hatched by the sun's heat. The larvæ are aquatic as are also the pupæ. The larvæ feed upon decaying vegetable matter at the bottom of the pool. The pupæ float upon the surface of the water until the perfect insects emerge. The mosquito is a blood-sucking insect, and is equipped with a many-bladed lancet of complex and very delicate construction, admirably adapted to the purpose of penetrating the skin tissues. It is the female only that feeds. The male does not bite. So far, the *culex pipiens* and the *anopheles* are the only varieties shown to be concerned in the life cycle of the "plasmodium malaria."

The theory that malaria gains access to the system through the medium of mosquito bites, has been advanced by numerous scientists during the course of some years. The discoveries of Kilburn and Smith, who demonstrated that the hæmatozoon of Texas fever is transmitted from the tick first acting as its temporary host, to a second generation of ticks, and by them back again to cattle, gave a new impulse to the mosquito theory. The hæmatozoon of Texas fever is similar to the plasmodium malaria, and the facts concerning the spread of one would seem to be applicable to the other.

Major Ross has devoted several years to a careful study of this subject in India, as have Grassi and others in Italy. During the past summer Koch and his assistants have investigated the matter very elaborately, without any result further than to verify the work of previous observers. Workers in this difficult field deserve much commendation for what they have accomplished. By their united efforts the following facts are established:

That there are two cycles of development in the life history of the parasite—an asexual, and a sexual one. The asexual development occurs in the red-blood cells of man by a process of division into sporozoites. The sexual development occurs within the body of the mosquito. A mosquito applying its sucking apparatus to the skin of a malarial subject, draws into its alimentary tract blood cells containing the plasmodium malaria. If the mosquito is of the *culex,* or *anophele* variety, the parasites there undergo sexual reproduction, and finally reach the salivary glands. The saliva lubricates the piercing apparatus,

and in this way the parasite is conveyed to man. The sexual development occurs in the mosquito only at a temperature of 75 degrees, or thereabouts.

We cannot doubt the accuracy of these scientifically conducted experiments. But from a clinical standpoint, it must still be doubted that malaria is contracted from this cause alone. It would seem that there must be other and more prolific sources of infection. At any rate, the matter should be held in abeyance, awaiting further developments.

R. S. M.

HARMLESS DISINFECTANTS.

Physicians should remember, and should so instruct the lay public, that there is no harmless disinfectant. All chemical substances, possessing the properties that are essential to the destruction of microscopic life, are capable of destroying the living cells of the human body.

Formalin is often referred to as a harmless germicide. It is only relatively so. Less caustic than the mercuric bichloride, and less dangerous than sulphurous acid gas, it is still capable of producing death.

Recently, at a farm connected with a state institution for feeble-minded youth, an employe was using a four-per cent solution of formalin for the purpose of destroying fungi on seed potatoes. Leaving his work for a few moments, an adult feeble-minded person drank from one to three ounces of the solution. Spontaneous vomiting immediately followed. Albumin dissolved in water was freely administered, and further emesis produced by hypodermic injections of apomorphia. The vomited matter contained blood. For a time it seemed that the means instituted to save life would be successful, but at the end of twenty-four hours the patient died. The autopsy showed a part of the stomach highly inflamed, and a part bearing very much the appearance of old leather.

Formalin is largely used as a food preservative, especially in milk and butter. Its use is certainly deleterious. R. S. M.

A VEXED QUESTION.

Henry George, that great humanitarian, says that modern civilization divides the human family like a wedge at the middle of the scale, forcing a part up, and a part down. The denizens of the two-cent lodging houses must be below the wedge.

It seems incredible, but is nevertheless true, that thousands of men in Chicago live in lodging houses, charging from two to ten cents a night. Is want necessarily an accompaniment of progress? We think not. The forces of civilization causing or permitting such extreme destitution are several. While among these people there may be occasionally one more sinned against than sinning, one who has gone down before the stress of adverse circumstances, by far the greater number can attribute their condition to intemperance, crime, or inherited worthlessness.

This is a fertile field of study for the philanthropist, and is a knotty problem for the political economist. It is a blot upon the civilization of the nineteenth century. Can it be remedied? R. S. M.

BOOK REVIEW.

American Text Book of Surgery.

For Practitioners and Students. by Phineas S. Connor, M. D., Frederick S. Dennis, M. D., Wm. W. Keene, M. D., Charles B. Nancrede, M. D., Roswell Park, M. D., Lewis H. Pilcher, M. D., Nicholas Senn, M. D., Francis J. Shepherd, M. D., Lewis A. Stinson, M. D., J. Collins Warren, M. D., and J. William White, M. D.

It is edited by Wm. W. Keene, M. D., LL. D., and J. Wm. White, M. D., Ph. D. Third edition, thoroughly revised. Published by W. B. Saunders, 925 Walnut street, Philadelphia. The popular price of $7 and $8 is still retained.

The list of contributors to this volume as given above embraces the names of some of the best specialists in surgery in the United States and many

as good as can be found on the globe. The first few lines of the preface will convince anyone of the immense popularity of this work, which is the best evidence of its usefulness to the profession. It reads: "Of the two former editions of the American Text Book of Surgery, there have been sold nearly 29,000 copies. This and its adoption as a text book in over 100 medical colleges have been gratifying evidences of the approval of the profession and the stimulus of the authors to keep the work abreast of the times by another careful revision. In the present edition, among the new topics introduced are a full consideration of orrho (serum) therapy; leucocytosis; post-operative insanity; the use of dry heat at a high temperature; Kronlein's method of locating cerebral fissures; Hoffa's and Lorenz's operations for congenital dislocations of the hip; Allis' researches on dislocations of the hip joint; lumbar punctures; the forcible reposition of the spine in Pott's disease; treatment of exophthalmic goiter; the surgery of typhoid fever; gastrectomy and other operations on the stomach; several new methods of operating upon the intestines; the use of Kelly's rectal speculum; the surgery of the ureter; Scleich's infiltration method and the use of eucain for local anesthesia; Krous' method of skin grafting; the newer methods of disinfecting the hands; the use of gloves, etc."

A number of chapters have been revised and a considerable number of new illustrations inserted. The book is too popular and too well known by the medical profession in general to need an extended review.

Physician's Visiting List.

(Lindsay & Blakiston's) for 1900, Philadelphia, P. Blakiston's Son & Co. This is a convenient and well made call list containing the usual data. We commend it to the profession.

Essentials of Physical Diagnosis of the Thorax.

By Arthur M. Corwin, A. M., M. D., instructor of Physical Diagnosis in Rush Medical College. Third edition, revised and enlarged. Philadelphia, W. B. Saunders.

When the importance of the conclusions drawn from the results of physical exploration of the chest are considered the necessity of thorough instruction in physical diagnosis becomes evident. Perhaps there is nothing in which the average practitioner more keenly feels his weakness than in this particular. The sounds heard only once or twice during the medical course become dim in the memory after years of non-use, and the feeling of uncertainty takes possession of the mind. The need of the practitioner as well as the student for frequent review of this important subject cannot be too strongly emphasized. It may be not out of place to suggest to the practitioner desirous of retaining and improving his skill in this important branch of diagnosis that the material for much practice may be found in the normal chest. Most of the abnormal percussion sounds may be demonstrated upon the normal chest, since they are normal in certain localities. Thus tracheal breathing is very similar to bronchial breathing and skill in percussion may easily be kept up and improved by marking out the limits of the organs in the normal chest and abdomen. The importance of careful analysis of sounds in regard to their fundamental properties of pitch, intensity, quality and duration cannot be too strongly insisted on. For such study the book of Dr. Corwin is well adapted by its admirable and methodical arrangement. While from its size the element of conciseness has been carried to the limit, this has not been done by a sacrifice of completeness. It is to be regretted that since the physical examination of the abdomen depends upon the same methods and principles as that of the chest, it is not included in works of this kind. Published by W. B. Saunders. Price

Essentials of Diseases of the Skin.

By Henry W. Stelwagon, M. D. Dr. Stelwagon is to be congratulated on furnishing the students this very valuable little volume. The book, while in the form of a quiz compend, borders on a small text book. The questions are extensive and the answers elaborate. Particularly is this true in those skin affections so frequently met with in practice. It should prove a very handy and useful volume in the hands of both the student and the busy practitioner. Published by W. B. Saunders. Price, $1.

Lectures on the Principles of Surgery.

Delivered at the University of Michigan by Chas. B. Nancrede, A.M., M. D., LL.D., Professor of Surgery and Clinical Surgery;

Emeritus Professor of General and Orthopedic Surgery, Philadelphia Polyclinic; Late Major and Chief Surgeon, U. S. V., etc. With an appendix containing a resumé of the principal views held concerning inflammation, by Wm. A. Spitzley, A. B., M. D.

This is an illustrated volume published by W. B. Saunders, 925 Walnut street, Philadelphia. In his preface the author says: "Although many excellent works have been written treating of the principles of surgery, the attempt to render them too comprehensive has marred their usefulness for the undergraduate, or undue prominence has been given to the author's special method of applying principles to practice. It must be manifest that it is impossible in the compass of a few hundred pages to give adequately all the essentials of surgical pathology, bacteriology and the more or less obsolete teachings of the past, when each of these subjects requires a larger volume than any work extant on the principles of surgery."

There is nothing which so interferes with the student and young practitioner in gaining a clear and comprehensive knowledge of the principles of surgery or medicine as the habit of most authors in introducing obsolete principles and voluminous experimental researches in arriving at the conclusions which are set forth as the proper principles to be followed.

Professor Nancrede has eliminated these objectionable features from his book, which is greatly to its advantage. The book consists of 26 lectures, an appendix and an index. It deals only with the principles of surgery, omitting specific instruction in pathology and bacteriology, etc., in the principles of which he considers the student and practitioner should be grounded before taking up the study of the principles of surgery. It seems to the reviewer that this is an excellent point and the little volume which the author and publishers present will be greatly appreciated by the vast majority of its readers. The subject-matter being given in the form of lectures, is very clear and concise and one cannot help reading the volume with an increased interest from first to last. He cannot be otherwise impressed than that the author thoroughly understands the subject-matter of which he is treating and that he is getting the latest and best that is known about principles of surgery.

He first considers the necessity of a knowledge of the principles of surgery, then takes up the subject of hyperemia, regeneration of tissue and inflammation in order. He makes a broad distinction between inflammation due to irritation that always results in regeneration and repair, i. e., aseptic processes and inflammation due to micro-organisms. He considers inflammation a true microbic process and devotes a chapter to this subject. He describes in Lecture VI the battle between the tissues of the body, especially the white cells and micro-organism, for supremacy. Lectures VII, VIII, IX and X are devoted to a further consideration of inflammation, including its treatment.

In the succeeding lectures he considers the changes which take place in the blood, changes in the vessels, different forms of surgical fever, pyemia, sapremia, septicemia. In Lecture XVI he considers the toxic conditions produced by drugs, in Lecture XVII also auto-intoxication; XVIII the results of suppuration; XIX the different forms of gangrene; XX, the different forms of ulceration and ulcers; XXI, erysipelas, tetanus and tetana; Lecture XXII, the treatment of tetanus and hydrophobia. Lectures XXIII and XXIV are devoted to other surgical microbic diseases, XXV to tuberculosis and its treatment. In succeeding lectures hemorrhage, hemotrosis, aseptic and antiseptic treatment of wounds, sterilization of the field of operation, sterilization of special regions and antiseptic surgery are considered, including sterilization of instruments, ligatures, sponges and dressings. In Lecture XXXI he considers the treatment of wounds; variety of wounds. XXXII, shock, collapse; treatment; saline transfusion. XXXIII, traumatic delirium; delirium tremens; traumatic hysteria and traumatic insanity. Lectures XXXIV-V-VI are devoted to anesthesia and anesthetics.

While the book is not designed for a laboratory guide, in surgical pathology or bacteriology it is one which will be very greatly appreciated by the profession in general and one which the general practitioner and student as well as the surgeon can well afford to read. Price, $2.50.

INTERNAL MEDICINE.

Under the direction of JEROME H. SALISBURY, A. M., M. D., Professor of Internal Medicine, Chicago Clinical School; Assistant Professor of Medicine and Chemistry, Rush Medical College.

Ten Years' Experience with Typhoid Fever.

W. H. Thomson (Med. Record, Nov. 11) compares typhoid of the present day with the descriptions of the disease given by writers thirty-five years ago. Although the statistics of the London hospitals have seemed to show that in spite of the apparently greater mildness of the symptoms at the present day the mortality of the disease has not decreased, the author thinks that it can be shown that the treatment of the present day has greatly improved the condition of typhoid patients. He calls attention to the unreliability of hospital statistics of mortality, because many patients are admitted late in the course of the disease, many of them being moribund when they enter the hospital.

As compared with thirty-five years ago, diarrhea is less frequent and less persistent; the same is true of tympanites. Hemorrhage occurred in 7.3 per cent of his cases but was in no case directly fatal. He recommends for its treatment the hypodermic injection of decinormal salt solution in the lumbar region, between the crest of the ilium and the twelfth rib. An ordinary hypodermic needle attached to a fountain syringe may be used and the fluid should have a temperature of 110 F.

The typhoid condition as described by Bristowe is a great rarity in the author's opinion. Furunculosis appeared in some cases to be due to infection by an organism occurring in the water used for bathing.

Thomson's method of treatment includes the administration of a purge, consisting of calomel gr. v and compound jalap powder, gr. xxxv, repeated every third night until the end of the second week; a diet of equal parts of milk and lime water for the first three weeks, with the addition of farinaceous gruels in the fourth week; pepsin and bismuth in ten grain doses repeated every three hours until the end of the disease, and if the tongue shows signs of becoming dry, M.x-xx of spiritus terebinthine given every four hours. For general toxemia he uses cold baths as soon as the temperature reaches 103 F. He finds that charging the bath with artificial Nauheim salts and carbonic acid increases the antipyretic effect and decreases the depression. For albuminuria he gives rectal injections of from four to six gallons of decinormal salt solution. He recommends this also in cases where without albuminuria the symptoms indicate a defective renal action.

Discussion on Intestinal Antiseptics.

(British Med. Journal, Nov. 11, 1899): Burney Yeo introduced the discussion, dividing the subject into four heads:

1. What is the design and scope of the use of intestinal antiseptics?

2. On what experimental and scientific basis is the idea and practice of intestinal antisepsis founded?

3. What are the morbid conditions in which this practice is applicable?

4. By what means can intestinal antisepsis best be secured?

The design and scope is, briefly, to prevent or limit auto-intoxication.

The medical idea of antisepsis does not necessarily involve surgical asepsis, nor bactericidal action. A limiting of fermentative and putrefactive changes, even if incomplete, and if the bacteria are not killed, may be of great benefit. Experiment has shown that some pathogenic organisms show their virulence only in the presence of putrefaction, e. g., the cholera spirillum and the colon bacillus.

Dr. Yeo mentioned a large number of morbid conditions in which intestinal antisepsis may be of service, viz: Gastric dilatation, duodenal indigestion, mucomembranous colitis, summer diarrhea, some cases of dyspnea, tachycardia, migraine, pernicious anemia, chlorosis, uremia, cholera, dysentery and typhoid fever.

Under the fourth head, he spoke highly of calomel, chlorin, carbolic acid, eucalyptol, creosote, turpentine, thymol, and menthol. He did not place much confidence in salol

and referred to the fact that concretions of salol have been known to form in the stomach.

Vaughan Harley and Francis Goodbody contributed a paper dealing with the evidence of the action of antiseptics drawn from the estimation of the aromatic sulphates in the urine and conclude as follows:

1. Estimating the quantity of aromatic sulphates daily eliminated in the urine, one is able to gain an insight into the amount of putrefaction occurring in the intestine at any given time, provided that aromatic substances are not being administered.

2. That washing out the large intestine by copious enemata is capable of decreasing the aromatic sulphates in the urine, and therefore causes a diminution of intestinal putrefaction.

3. That when a mild aperient is given, not sufficient to act as a purgative, but sufficient in all probability to cause more complete emptying of the bowels, this acts as an intestinal antiseptic, decreasing the amount of the aromatic sulphates in the urine, not only when they are increased, owing to increased intestinal putrefaction, but even when they are only small in amount.

4. That calomel when given in small doses so as to produce no purging, does not diminish the aromatic sulphates in the urine to a sufficient extent to say that it acts as an intestinal antiseptic when the aromatic sulphates at the beginning are small. On the other hand, when, however, undoubtedly there is an increase in intestinal putrefaction, small doses of calomel seem to act as an intestinal antiseptic.

G. Herschell suggested that as the estimation of aromatic sulphates is impracticable in clinical work, the estimation of indican performed in the following manner be substituted: The urine for twenty-four hours is diluted or evaporated until it measures just fifty ounces. Then use 10c.c. of urine, 10c.c. of hydrochloric acid and 2c.c. of chloroform. Compare the color given to the chloroform with a color scale which has been experimentally constructed to indicate known quantities of indican. He emphasized the importance of cleansing the mouth and teeth and, in appropriate cases, of washing out the stomach as adjuvants in securing intestinal antisepsis.

R. B. Wild recommended charcoal as an intestinal antiseptic.

Action of the Heroin on the Respiration.

Dreser (Arch. f. d. ges. Physiologie, 1898, Bd. LXXII, No. 42), as the result of his investigation of the new preparation heroin or di-acetyl-morphin, concluded that heroin reduced the frequency of respiration in rabbits while it prolonged the respiratory act, especially the inspiration, and increased the depth of the respirations, so that the physiologic effectiveness of the respiration was not impaired, but in some cases improved.

On the other hand, Prof. C. C. Santesson concludes that heroin, even in small doses, greatly reduces the frequency of respiration without increasing its depth. In some cases the depth of the respirations is also markedly reduced.

Detection of Albumose in Urine.

It has been shown that urobilin will give the biuret reaction. To avoid this and other complications, L. V. Aldor (Berlin Klin. Wochenschrift, XXXVI, 35 S. 764, 36 S. 785) operates as follows:

Ten cc. of urine are acidified with a drop or two of hydrochloric acid and a 5 per cent solution of phosphotungstic acid added as long as a precipitate occurs. The precipitate is condensed with the centrifuge and the supernatant fluid removed. The precipitate is then shaken repeatedly with absolute alcohol until, after centrifugation, both the alcohol and the precipitate are colorless. The alcohol is now removed and the precipitate suspended in water and treated with a strong solution of sodium hydroxid and copper sulphate solution added drop by drop. If albumose is present a fine rose color will appear.

Treatment of Superacidity of the Gastric Juice.

Dr. Wold Bachman communicates the results of his experimental work bearing on this subject in the Archiv. f. Verdauungskrankheiten, B. V. H., 3.

Most authors have recommended a meat diet in this affection on the ground that it better subserved the nutrition of the patient and combined with more of the acid secreted, leaving less as free HCl to become an irritant to the mucous membrane. Authors have usually permitted fats in moderate amounts.

Bachman investigated the effect of various simple foods and of the action of two

meals, one consisting of animal food chiefly, the other of vegetable. The quantities of each were regulated so as to give about the same nutritive value.

It was found that mush and bread cause the earliest appearance of hydrochloric acid, next potatoes and milk and last beefsteak. The total quantity of free HCl. was greatest with potatoes and least with eggs and milk. A vegetable meal causes less free HCl. than an animal. As regards the total quantity of hydrochloric acid, both free and combined, the greatest amount was produced with beefsteak, less with eggs and least with potatoes, bread, mush and milk. It was higher with the meal of animal food than with vegetable. The total acidity followed the same rule. The digestive power of the gastric contents is not markedly influenced by the different kinds of food. Beefsteak remains in the stomach considerably longer than the other foods. The greatest production of lactic acid occurs with potatoes. Butter and cream, added to other foods, lessens the production of acid. The author concludes that vegetable food and milk fulfill the requirements of a dietetic treatment of hyperchlorrhidia and hyper-secretion better than an animal diet. Potatoes, however, must in most cases be regarded as less serviceable on account of the subjective trouble which they cause as well as greater amount of free acid, of lactic acid and of gas which they cause to be formed. Butter and cream must not only be regarded as allowable, but on the other hand should be recommended on account of their power to reduce the production of gastric juice.

SURGERY.

Under the direction of FRANCIS R. SHERWOOD, M. D., Professor of Surgery, Chicago Clinical School; Professor of Anatomy, College of Physicians and Surgeons (Medical Department University of Illinois).

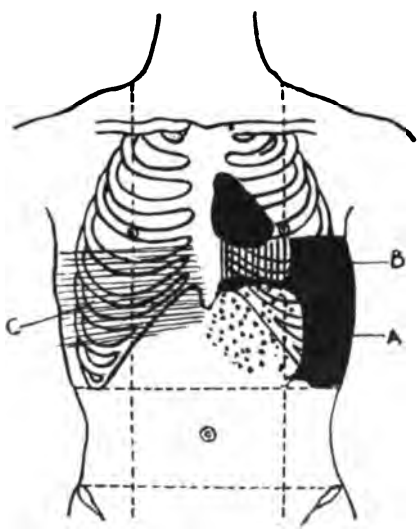
Diagnosis of Tubercular Peritonitis.

A. Earnst Gallant (Am. Journal Obst., October) says: 1. Tubercular inflammation of the peritoneum is met with at all ages and is most common in early adult life. 2. It is most frequently met with in women and between the ages of 20 and 40 years. 3. It most often originates in the pelvic sexual organs, and from that point may extend to the visceral and parietal abdominal peritoneum. 4. As a primary lesion of the peritoneum it resembles, in its inception, subsequent history and final outcome, the various forms of the same disease in other serous cavities. It may be secondary to tubercular disease in any other part of the body, especially the lungs and pleura. 5. The most distinctive features of the disease are: A rather constant subnormal morning temperature, rising to the normal in the late afternoon, reaching a little above at night; hypogastric pain on pressure, on walking and when urinating, and the presence of the tubercle bacilli in the pulmonary, cervical or vaginal secretions. 6. Anesthetic examination in pelvic cases will often aid in clearing up the diagnosis, but when the abdomen is tensely distended with encysted fluid, unless immediately preceding operation, it will only subject the patient to useless discomfort. 7. A positive diagnosis other than by exploratory incision is in some cases impossible. 8. Early abdominal section, evacuation of the fluid, removal of the original focus, carefully avoiding any attempt to break up intestinal adhesions, thorough irrigating of the cavity with saline solution, and closure of the abdomen without drainage of any form, has been shown by later operations for other conditions, and on autopsy, to have resulted in permanent cure. 9. When confined to the pelvis, removal of the original focus usually results in permanent cure of the disease. 10. Where fluid reaccumulates a second celiotomy will be curative or prolong life. 11. Tubercular disease in other parts, especially the lungs and pleura, is not a contraindication to operation, which will be followed by a more or less prolonged abeyance or retardation of the disease.—J. Am. Med. Assn., November 4.

A Case of Pyo-Pneumothorax from Perforation of Gastric Ulcer.

W. B. Ransom (London Lancet, Nov. 11, 1899) says: The patient, a single woman aged 20, when first seen was apparently in

the last stage of phthisis, from which disease, indeed, she was supposed to be suffering. She gave a history of suffering from pain after food, with occasional vomiting, which sometimes contained dark blood. Six weeks previous to being seen she was suddenly seized with a stabbing pain in the left axilla, shooting across the stomach. Since then she had kept her bed, had had frequent vomiting of food and bile, and had coughed up phlegm of an unpleasant taste and odor. She was extremely emaciated, anæmic and had dry skin. Abdomen flat, not very tender, stomach resonance mounted high near the heart. In the chest the resonance at apices was poor, but there were no crepitations or bronchial breathing. Dullness only in hinder and lowest part of left axilla. There was no sucussion splash. In the lower two-thirds of the left axilla and at the left base were amphoric breathing and metallic tinkling. Diagnosis: Pneumothorax from perforating gastric ulcer.



A, the dotted area gave the stomach note. B, the area covered with vertical lines gave the high pitched note of pneumothorax. C, the area covered with horizontal lines gave liver dullness. The black area shows the dulness due to empyema.

The patient was operated on in September, 1898. A needle inserted near the angle of the left scapula withdrew some fetid pus. Two inches of the seventh left rib were excised near the angle of the scapula. Only a little gas escaped at first, the lung being slightly adherent to the chest wall, but on the finger being introduced in an upward and forward direction, about four ounces of fetid pus escaped.

Pyloroplasty for Stricture of the Pylorus.

Morris R. Richardson (Boston Medical and Surgical Journal, November 30), in an article entitled "Three Cases of Pyloroplasty for Stricture of the Pylorus," says that obstruction of the pylorus seems not uncommon, if we consider as causes of obstruction not only organic changes at the pylorus itself, but also changes in the position of the stomach by which a kink or flexure is produced at its outset. It seems probable that many cases of gastric dilatation are caused by sharp bends at or near the pylorus, either in the stomach or the duodenum. These bends, though not preventing the passage of food, do produce a certain amount of obstruction, with stasis and fermentation of gastric contents and a resulting dilatation. Such kinks and flexures may not even depend upon adhesions; they may take place without any change whatever at or about the pylorus, the faulty position, resulting from a simple overloading and sagging of the normal stomach or from atony of the gastric walls and dilatation.

Whatever the initial cause which produces the bend near the pylorus, it seems evident, even if the cause be a constriction, that the traction of the loaded stomach will tend to increase the obstruction. In many cases the only cause of dilatation may be an organic stenosis of the pylorus. In some cases this stenosis does not result in dilatation, but rather in thickening of the gastric walls.

The influence of adhesions from external causes in producing stenosis seems clear. Such a cause may be found in an old cholecystitis. Localized peritonitis from other causes with adhesions about the stomach may produce serious disturbances of nutrition, even though there may be no organic disease of either pylorus or duodenum.

The diagnosis of pyloric obstruction may be easy or it may be hard. The lesion may be unmistakable or may be determined only after exploration.

The importance of a gastric ulcer may be and is often overestimated. The typical symptoms of such lesions are often absent.

This lesion, as many other acute abdominal emergencies, may present anything but the classical history and appearances of organic disease. Just as in gall bladder lesions, and especially in acute inflammations dependent upon gallstones, where there is no previous history of gallstones themselves upon which to base a guess, so in gastric lesions there may have been a lifetime of perfect digestion. It may be stated that as a rule an ulcer in the pyloric regions will be found to have given at some time or another signs of its presence. A history, even if obscure, may furnish the missing link in the chain of evidence.

The most important symptom of pyloric obstruction is vomiting or regurgitation of food some hours after it is taken. The more complete the obstruction the more food will be regurgitated, until practically all that is swallowed will be returned. If the food is retained long enough it will be decomposed and offensive. Pain may or may not be present. The stomach may be dilated or even contracted. Its walls may be hypertrophied. At exploration the peritoneal surfaces are reddened and its vessels injected. If dilated the stomach will present the usual characteristics of dilatation. One may think before operation that he detects a tumor. It seems hardly necessary to say that gastric tumors cannot be felt unless they are at the pylorus or in the anterior walls, except when they are very large and project forward.

With characteristic vomiting, with or without pain or dilatation, progressive emaciation adds the required evidence for a reasonable diagnosis of pyloric stricture. If the vomitis contains blood, changed or unchanged, the question of an acute process, whether ulcer or cancer, must be considered. The opinion inclines toward carcinoma if the blood is changed, if there is cachexia, if the patient is over 35. It becomes a conviction if there is tumor. If the patient is under 35, if he is anemic rather than cachectic, if the blood is bright, the opinion must incline toward ulceration.

The stomach presents a field in which surgery may achieve some of its most brilliant results. From the anatomical, the physiological and the pathological standpoints this field is a most attractive and encouraging one.

In stricture of the pylorus of benign origin no method seems worthy of consideration which does not restore to its normal caliber the lumen at the point of constricture. He used the Heinecke-Mikulicz pyloroplasty in the three cases reported. This procedure, whatever its theoretical beauty, has certain disadvantages. On the cadaver no operation could be more perfect than that which enlarges a flexible cylinder by transforming a longitudinal into a transverse slit.

When, however, there is a wide annular ring of cicatrix at the pylorus the method is faulty and unsatisfactory. The operation consists in converting a longitudinal slit in the wall of the duodenum and stomach with its center over the pylorus into a transverse one, by bringing the extremities of the wound in the stomach and pylorus in contact with each other. This approximation of the surfaces is satisfactory when the cicatricial ring is narrow, or when the cicatrix is confined to the posterior wall of the pylorus; for the new channel is then bounded everywhere except behind by normal mucous membrane. When, however, the cicatricial ring is broad, the new wall

in front does not have enough mucous membrane and the stricture may recur.

After making the longitudinal cut, if there is a broad cicatrix, a lozenge-shaped piece may be taken out in such a way as to remove all of the cicatricial tissue.

This brings the normal structures in contact with each other. He uses silk for suture material. He says the results in this, as in most operations upon the stomach, are very encouraging. All of his cases of gastric surgery have recovered except two, one of which was a digital dilatation for a benign stricture of the pylorus, which he considers a most unsatisfactory and useless operation.

GYNECOLOGY.

UNDER THE DIRECTION OF

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Surgical Treatment of Uterine Displacements Resulting From Laceration of the Pelvic Floor.

C. K. Flemming (Journal of the American Medical Association, November, 1899) says: The uterine displacements which may demand operation are retrodisplacements and prolapse. Prolapse follows retrodisplacement, as the uterus in all cases, before it can become prolapsed, must be in a state of retroversion. We shall confine our remarks to radical treatment of retrodisplacement of the uterus. The principal operations devised for this condition are ventro-suspension of the uterus and Alexander's operation.

The indications for radical treatment of this condition are where the subjective symptoms are to be directly traced to it, as all retrodisplacements do not produce symptoms, and therefore do not demand treatment.

Ventro-suspension: The field of this operation is larger than that of any of the others. Its indications are a retrodisplaced uterus, adherent or not, producing symptoms; when the uterus is large and heavy, and particularly when complicated by unilateral or bilateral pelvic disease. The advantages of the operation are that it requires but one incision; it is easily performed and takes but a few moments, and the adnexia can be examined or removed if necessary, or treated according to indications.

The objections to this operation, increased danger of abortion and difficult labor, are without much foundation. The percentage of abortions in women who have not received such operation is large enough as we find mentioned in various books on obstetrics that at least 20 per cent of all pregnancies end in abortion. In statistics of 75 cases operated on at Johns Hopkins Hospital, 14 became pregnant afterward and only one is reported as having miscarried, and that after violent dancing. A number in this series had abdominal pain during the months of gestation, but am unable to say whether it was due to fixation or not. Probably the best and most satisfactory method of performing ventro-suspension is that advocated by Dr. Kelly, but slightly modified, in which, after the preliminary work, the uterus is suspended from the peritoneum by two chromicized catgut sutures, which pass through the uterine muscle just posterior to the crest of the fundus. The mortality from this operation is nil, as it is by far the most simple abdominal operation to perform.

Operations on Round Ligaments: Alexander's operation is also a suspensory operation, the normal ligaments being used to hold the uterus in permanent anterior position. The round ligaments normally are simply guy ropes, preventing too much backward movement of the uterus and are in no way suspensory until the uterus has become prolapsed. Alexander's operation is becoming more popular every day as operators become acquainted with its advantages. The indication for the operation is clearly defined and is a pathologically retrodisplaced uterus, which is not adherent and in which there are no complica-

tions, such as a tumor of the uterus or adhesions and inflammations of the uterine appendages. The operation should be performed as recommended by Edebohls, who has probably practiced it oftener than any other operator in this country. Some of the disadvantages of Alexander's operation are the difficulty of isolating the round ligaments, the inequality and possible friability of the ligaments, the two incisions, thus a double liability of hernia. The round ligaments are also shortened by intra-abdominal operations, which were devised by Wyley and Dudley, both of these consisting in making a median incision. The round ligaments are found within the abdominal cavity and folded on themselves and held in this position by suitable sutures. Neither have any advantage over either of the above-mentioned operations.

Supra-Vaginal Hysterectomy.

M. Tuffier (Paris) says that he prefers supra-vaginal hysterectomy and that he employs the American method. He has modified the American method only by preserving the ovaries and by uniting by one ligature the two utero-ovarian pedicles. As ligature material he uses, with success, reindeer tendons.

He most always selects the abdominal route. If the fibroma be small, he may resort to the vaginal route.

Myomectomy has not given him remarkable results. He has been better pleased with the atrophying ligature. Bi-lateral castration can be of service.

In cancer uteri he operates even if the process is advanced. In these cases the atrophying ligature gives only deceptions. The important step of the operation is the thorough removal of the canceric lymphatics in the broad ligaments.

In acute puerperal infections there are some forms in which the infection is localized to the uterine tissue. In these cases total hysterectomy can be of use.

Abdominal Hysterectomy in Treatment of Cancer of the Cervix Uteri.

M. F. Legueu (Paris), owing to the insufficiency of vaginal hysterectomy, owing to the defective results which it has given him, now treats cancer of the cervix uteri by abdominal hysterectomy.

He has performed this operation in two different categories of cases—complicated cases (they are the most numerous) and simple cases. By complicated cases he understands extensive cancers associated with infiltration of the broad ligaments, appreciable glandular enlargements, and all other conditions that make the operation through the vaginal route impracticable.

Simple cases are young cancers not associated with peri-uterine infiltration, not extending beyond the vagina.

He sees no advantage in the preliminary ligature of the hypogastric arteries. He has abandoned the practice. He makes a systematic search for the lymphatic glands along the pelvic wall. In nine cases of advanced cancer, with infiltration of the broad ligaments, upon which he operated, the neoplasm recurred in all but one case. He believes that as abdominal hysterectomy is a more complete operation than vaginal hysterectomy, it is preferable to it. However, in advanced cancers, with infiltrations of the surrounding tissues, it is only a palliative measure. The risks associated with the operation more than overbalance the benefits to be derived therefrom. He shall in the future consider these cases inoperable.

But in cancers limited to the cervix, with no apparent involvement of the broad ligaments, abdominal hysterectomy permits radical operating. He thinks that this operation is the therapeutic agent "par excellence" for these cases.

In the treatment of fibroids vaginal hysterectomy is also losing ground.

He has not abandoned vaginal hysterectomy in the treatment of inflammatory lesions of the adnexa. He has performed this operation for lesions of this nature ninety times. He has had four deaths and eighty-six recoveries. What makes him prefer the abdominal to the vaginal route is that with the latter one cannot always do just what he wishes. Often one does too much; often not enough.

Induction of Abortion or Premature Labor in Pregnancies, Complicated by Nephritis.

The induction of abortion or premature labor in pregnancies, complicated by nephritis (be the nephritis of the gravidaric, parenchymatous or interstitial form), will, according to M. J. Lvov (Kazan), when timely performed, often be the means of saving the life of the mother, and in premature labor, also that of the child.

The procedure is indicated in the following conditions:

1. The kidney of pregnancy, when even under appropriate treatment the conditic

gets worse, the albuminuria increases and the urinary flow decreases. Gravidaric nephritis most often first appears in the sixth month of gestation, and as the patients only first apply for medical attendance after two or three weeks of alarming symptoms, and that medical treatment must not exceed two weeks, the pregnancy is then in its eighth month; that means that we have a perfectly viable fetus.

When pregnancy is complicated by an acute parenchymatous nephritis, abortion or premature labor must be immediately induced (be the fœtus viable or non-viable). It offers us the only hope of saving the mother.

3. In chronic nephritis gestation must be interrupted, if the odema becomes more marked, if the quantity of urine voided lessens and if the albuminuria increases. It is useless to wait for a viable fetus, for the nephritis itself causes the death of the fœtus and often provokes abortion.

Colpotomy Indicated in Retro-Uterine Hematoceles.

M. Delangre (Tournai) says that colpotomy is indicated in retro-uterine hematoceles. He also practices this operation in pelvic abscesses. This operation has always given him good results.

Primary Vaginal Epithelioma.

Primary vaginal epithelioma is an uncommon affection. Adenot (Lyon) reports a case of this affection in which simple ablation gave excellent results. Three years after the operation there are no signs of recurrence. The microscope showed that this epithelioma was of the pavement celled variety.

Pozzi recognizes two varieties of primary epithelioma of the vagina—one form with vegetations and another with infiltrations. Both forms are rapidly progressive. This rapid evolution of primary cancer of the vagina is characteristic.

In Adenot's patient the lesion was of slow evolution and showed no tendency to ulcerate. Its course was analogous to that of atrophic cancer. Its anatomical characteristics showed a structural resemblance to that form of cancer. The reporter thinks that to the two forms of rapid evolution described by the authors must be added a third form of slow evolution, that he calls atrophic cancer of the vagina.

OPHTHALMOLOGY AND LARNYNGOLOGY.

Under the direction of WILLIS O. NANCE, M. D., Professor of Ophthalmology, Chicago Clinical School; Assistant Surgeon, Illinois Charitable Eye and Ear Infirmary.

The Question of Operation on an Injured Eye in Sympathetic Ophthalmia.

Sattler (Opthal. Rec.) says: Sympathetic ophthalmia evokes a never-ending interest for it is established without question that no more uncertain or unmanageable lesion is known, one that sooner or later, with infallible certainty, terminates in hopeless destruction of the vision. If the opportune time for preventive surgery has been lost or was overlooked and sympathetic disease is in progress, almost without exception, treatment is useless, and blindness alone certain. The principal points of the paper are thus briefly summarized: Enucleation of an injured eye (particularly in rupture of the sclera, punctured wounds of the globe with extension to the uveal tract) when sympathetic ophthalmia of the fellow-eye has been excited, is not justifiable for the reason that, after a complete subsidence of inflammatory in both eyes, the injured eye alone may offer a chance for partial restoration of sight.

Enucleation of an injured eye which has excited sympathetic ophthalmia is justifiable, often a measure of necessity in cases of traumatism produced by the lodgment in the eye of a foreign body which cannot be localized. If such eyes are a source of continued suffering, the enucleation should be speedily done, but without hope or prospect that this will influence the course of the inflammatory disturbance.

Enucleation of the injured eye with the hope that it will influence favorably the progress of the sympathetic ophthalmia, has little or no foundation in accurate clinical observation and clinical experience. There certainly is no reliable proof that it has ever arrested, or even retarded, the fatal course once begun. It must, therefore, be considered an uncertain measure of interference which expediency even can only counsel in a small fractional number. It

must furthermore be added, that there are no reliable data that it is harmful in the sense that it excites a more disastrous course in the sympathetically affected eye. This is more likely due to the inherent degenerative activity which varies in each case, so far as its destructive fatality is concerned.

Strong Sublimate Solutions in Treatment of the Eyes.

E. Guttmann writes to the Deutsche Med. Woch., Nov. 2, recommending the instillation once a day of six to ten drops of a 3 per 1,000 solution of sublimate on the inferior conjunctiva and conjunctival fold, avoiding the cornea as much as possible, the eyeball turned up. His experience with several thousand cases thus treated at Magnus' Clinic has established its great efficacy in catarrhus muco-purulentus with severe symptoms—the mild forms do not require energetic treatment. It is also very effective in trachoma, but treatment must be continued longer than in cases of catarrh; the simple trachoma does not need it. It cures chronic gonorrheal dacryocystitis without the necessity of a sound, except in extremely old cases. The instillations smart for an hour or so, but not seriously unless the nerve terminals are exposed. The more intense the catarrhal symptoms the less subjective reaction and the more brilliant the results. No indications of intoxication have been observed in any case, and the immediate dilution of the solution by the secretions of the eye, precludes the possibility of intoxication. The solution must always be ordered sine spiritu, and the instillations made by the physician, at whose hands they will prove as "harmless as they are effective."—(Jour. A. M. A., Dec. 9, '99).

A New Intratympanic Masseur.

W. H. Weaver (Laryngoscope, Nov., '99) describes an intratympanic masseur composed essentially of a tube fitting between the cut-off and the catheter in which is placed a valve that cuts off the current once in each revolution. The valve is kept in motion by the impact of a small jet of air against a fan-wheel attached to the stem of the valve. It is capable of making from 4 to 20 revolutions of air puffs per second, according to adjustment. The sensation produced is rather agreeable and it can be tolerated from 2 to 10 times longer than Politzerization. Tinnitis is rapidly relieved, and the hearing power more rapidly improved in comparison with the ordinary methods of treatment.

Relative Frequency of Iritis in Syphilis and Rheumatism.

Brunson (Op. Rec., Nov., '99) has collected the histories of 1,500 cases each of syphilis and rheumatism, and finds that iritis occurred in a little more than three per cent of the former, while in rheumatism the percentage was about one and one-half. He believes that if active heroic treatment is instituted when the initial syphilitic lesion is first seen, iritis will not occur once in 500 cases. The following table showing the differential points of diagnosis between iritis caused by syphilis, and iritis caused by rheumatism, is appended:

RHEUMATISM.

1. History of acute or chronic rheumatism, or some evidence of uric-acidæmia.
2. Photophobia, lachrymation, and pain well marked.
3. Condylomata never observed on iris.
4. Iris often bright.
5. Exudative changes slight.
6. Posterior synechiæ long, thin, and not pigmented.
7. Very little tendency to formation of pigment on anterior capsule of lens.

SYPHILIS.

1. History of syphilis, either acquired or hereditary.
2. Photophobia, larchrymation, and pain not well marked.
3. Condylomata present in every case.
4. Iris often very dull.
5. Exudative changes very extensive.
6. Posterior synechiæ short, broad, and pigmented.
7. Very marked tendency to formation of pigment on anterior capsule of lens.

Quinin Instillations in Suppurative Affections of the Anterior Segment of the Eye.

J. de J. Gonzalez (An. de Oftalmol: Jour. Am. Med. Asso.) announces that he has found neutral quinin hydrochlorate in a 1 per cent solution—ten drops three times a day—extremely effective in curing corneal ulcers and abscesses with purulent infiltration in the early stages, and hypopyon if not very large. He explains its efficacy by its mild bactericidal action, combined with its paralyzing effect on the leucocytes.

The quinin destroys the invading germs, and by paralyzing the leucocytes, prevents their further accumulation, which compromises the transparency and vitality of the tissues. The quinin, therefore, is the beneficent mediator between the invaders and the defenders of the organism, and thus saves—by arbitration, as it were—the transparency in the cornea. Of course, when its task has been accomplished it should be replaced by the individual treatment needed. The instillations also relieve pain promptly and effectively, although they induce a slight transient exacerbation at first.

Ichthyol in the Treatment of Corneal Ulcers.

B. F. Travis (Med. Her., Nov. 9, '99) recommends ichthyol in a 30 per cent solution in the treatment of corneal ulcers, both idiopathic and of traumatic origin—this strength to be applied by the physician, and a weaker solution prescribed for home use. No danger is attached to its use, and it is highly beneficial in its results. The slight transitory pain accompanying its application may be temporized by a preliminary instillation of holocain, in a 1 per cent solution.

Bacteriology of Ophthalmia Neonatorum.

Groenouw, of Breslau, at a meeting of the Heidelberg Opthal. Soc., reported in the Opthal. Rev., Nov., '99, states that in forty cases examined, including simple catarrhal ophthalmia of infants, as well as purulent ophthalmia, he found the gonococcus fourteen times, but only once by itself. Staphylococcus albus was almost always present, also, xerosis bacillus rarely absent. Staphylococcus aureus was found in about half the cases, pneumococcus once, and bacterium coli six times, besides other undetermined bacilli. About one-third of the cases gave no typical bacteriological appearance.

Nasal and Aural Complications in Epidemic Influenza.

Snow (Jour. Am. Med. Asso., Nov. 25, '99) holds that practically all the headaches and cranial pains of la grippe are due to pressure in the nasal passage, or to pent-up secretions within the adjacent sinuses, the outlets of which are blocked by the acutely congested membranes. The ethmoidal cavities are particularly susceptible to inflammation, and may, in some cases, be the only ones involved, but in others, one sinus after another may be affected, a peculiarity being that these inflammations are likely to be confined to one-half of the head. We are hardly justifiable in calling the severe cranial pains that accompany epidemic influenza, neuralgias, and make no effort toward reducing the congestion of the membranes. The indications for treatment are to reduce the virulence of the poison and control nasal inflammation so as to promote a free drainage of sinuses, and thereby prevent the formation of pus. A mild alkaline solution, as Seiler's, snuffed or sprayed into the nostrils every two or three hours, followed with benzoinol plain, or in combination with menthol (grs. 3 to oz. 1) is of value in a majority of cases. A spray of a 2 per cent cocain solution followed by a light spray of iodol, menthol, and ether (Squibb's), one grain of each to the ounce is grateful to the patient, and gives the ethmoidal and frontal sinuses a better opportunity to unload their secretions. Serious middle-ear trouble can often be aborted by the use of leeches, followed by the aural icebag. Politizer inflation and hot water injections, one pint every hour, are advised. If the drum becomes bulged, a free incision into the posterior half should be made, carrying the knife well through, so as to cut the periosteum lining the middle-ear. Prompt, energetic, and persistent must be the measures instituted if the mastoid becomes involved. Either the ice bag or hot fomentations may be rationally used, but whichever is ordered must be kept on continuously for hours.

Removal of Ear Wax.

W. Blair Stewart (Phil. Med. Jour.) uses a half-strength solution of hydrogen dioxid to disintegrate hardened wax in the external ear. Five or ten minutes is required, and very little syringing is necessary. The ear should be perfectly dried, petrolatum applied, and a plug of cotton kept in place for twenty-four hours after the cleansing.

Nasal Disease a Cause of Headache.

Dundas Grant (Jour. Lar. Rhin. and Otol.) says: As regards the forms of nasal disease which may give rise to headache, the most common may be first quoted, namely, adenoid vegetations of the nasopharynx. It is a most usual experience after the removal of adenoids to observe the disappearance of headaches which were previously of frequent occurrence. Hyper-

trophy of the middle turbinated is another frequent cause, and that it should be so, is very readily understood, when we consider the comparative narrowness of the space in which it lies, and the rigidity of the walls which bound that space, all being richly supplied by branches of the great sensory fifth nerve.

PROCTOLOGY.

Under the direction of J. RAWSON PENNINGTON, M. D., Professor of Rectal Diseases, Chicago Clinical School; Surgeon-in-Chief, Good Samaritan Hospital for Fistula and Other Diseases of the Rectum; Consulting Surgeon, Mary Thompson Hospital for Women and Children.

Treatment of Internal Hemorrhoids.

Dr. J. Boas (Deutsche Medizinal-Zeitung, October 30th) says that treatment of this condition must be based upon the fact that hemorrhoids is a disease of the rectum. The idea that congestion dependent upon the heart, lungs and liver gives rise to rectal varicosities has been disproved by numerous authors. Local causes are always responsible for the development of hemorrhoids, and treatment of these causes a cure. Among local causes those which prevent the return circulation through the portal system and vena cava naturally play the most important role. Rectal and perirectal tumors, the pregnant uterus, tumors of the large intestine, disease of the adnexa, stones in the bladder, intestinal ulcerations, stenosis, catarrh, etc., may give rise to hemorrhoids. The most important and benign causes, however, are those which are due to the pressure of hard and stagnated feces upon the rectal ampullæ or sigmoid flexure. Cases also exist in which hemorrhoids develop with normal defecation, with alternating constipation and diarrhea, or, indeed, even with diarrhea alone. In the first instance there is present a certain hypoplasia of the venous plexus, perhaps also an atrophy of the rectal mucous membrane itself. In the latter there exists, as a rule, a more deeply situated catarrh of large intestine or rectum, under whose influence an increased congestion of the hemorrhoidal plexus might occur. Most frequently, however, there is present an habitual disturbance of defecation, particularly in the lower bowel, which in time causes circumscribed, diverticula-like fecal reservoirs. The most frequent and most satisfactory therapy lies in the treatment of habitual constipation, in the prevention of large fecal accumulations, and this not by means of laxatives, but rather by persistent dietetic treatment which produces large and soft evacuations, and prevents fecal impaction, especially in the rectal ampullæ. Mention must here be made of the general ideas as to the value of the bland, that is, the non-irritating diet. The "bland diet" is the one which tends most of all to keep intact the integrity of the hemorrhoids, inasmuch as it favors constipation, more so than any other. Single, long-continued and large hemorrhages justify a relative diminution of alcohol, pepper, mustard, etc. In addition to diet, generally hygienic measures must be observed—exercise, gymnastics, riding, billiards, lawn-tennis, football, etc. Herewith is included rectal toilet, cleansing of the anal portion with astringent solutions, preferably tannin or alum. Rectal enemata, with gradually elevated douche, are very serviceable. These simple measures suffice in the first stage of the affection and in the absence of complications; indeed, in a large proportion of cases the varicosities disappear altogether. Even the rectal catarrh, which the patient falsely call "catarrhal hemorrhoids," gradually disappears, once the lower intestinal tract has been cleared of the fecal accumulations, or the irritation consequent upon their decomposition. Hemorrhoids ought to be treated in their very incipiency. In the later stages, the regulation of the constipation or the cure of a constipative intestinal catarrh is more difficult, and requires the aid of laxatives and irrigations. Among the former, only such are indicated as after habitual use do no harm to the gastro-intestinal tract, produce a mild and satisfactory effect, and do not wear off too quickly. This list includes rhubarb in its various compositions, sulphur, compound licorice powder, magnesia usta, and citrate of magnesia.

The dose should be as small as possible. The treatment of hemorrhoids with mineral water is very popular; the results here depend entirely upon the laxative properties of the given water as well as the local effect of the baths upon the hemorrhoidal nodules. This method seldom gives permanent results. Under the same category might be included the grape cures, which also produce a regulation of the bowel function, and thus might favorably influence the condition; once, however, the treatment is stopped, the condition recurs in the majority of cases. The success of the internal therapy of hemorrhoids depends upon the treatment of etiological factors. If this fails, then all other intervention will have but a transitory and symptomatic effect. This brings us to the local treatment by pessaries, suppositories and ointments. The former are of temporary value and may produce a certain amount of relaxation of the sphincter by compression of the varicosities. The suppositories and ointments may be of service in excoriations of the varicosities and in slight hemorrhages. The following suppositories and ointments are very much in use:

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Chrysarobin 0.8
Iodoform 0.02
Extra. bellad 0.02
Butyr. cacao .....2.

M. S. Introduce one, two or three times a day.

℞

Chrysarobin 0.8
Iodoform 0.3
Extra. bellad 0.6
Vaselin .....15.

M. S. Apply twice daily.

℞

Potassii iodidi .....2.
Iodi puri 0.2
Glycerin .....35.

M. S. Apply.

Among complications, the treatment of hemorrhage, constriction and prolapse are the most important. Small hemorrhages, as they occur in all well-developed cases, require no special treatment. It is quite different, however, when the hemorrhages recur, when they appear at every movement of the bowels and even independently of it, or when the hemorrhages occur infrequently, but are of such a degree as to give rise to a very marked anemia. In the first instance, the object of treatment is to prevent venous stasis by a regulated diet and mild laxatives. If, despite normal defecation, habitual hemorrhages occur, then the fluid extr. hamamel. virg. is indicated:

℞

Extra. fluid. hamamel. virgin. 100
S. ℥ i. t. i. d. in a glass of water.

Suppositories might also be used. In acute and alarming hemorrhages the best treatment is tamponing of the rectum with ferripyrin, chlorid of iron, or iodoform gauze. Care must be taken that the tampon reaches the bleeding point, otherwise the hemorrhage will continue. At the same time a full dose of opium is given in order to quiet intestinal peristalsis. In three days the tampons may be removed, and a dose of castor oil given. In constriction of the hemorrhoids, protection and avoidance of forcible reduction are indicated. If possible in suppository or cocain and opium is to be introduced, in order to immobilize the lower bowel. Then, after a thorough inunction of the entire anal portion and the rectum itself, reduction of the constricted portion is carefully undertaken in the side position, if needs be with the aid of chloroform, ether or Schleich anesthesia. Leeches might be applied in the region of the varicosities; after sufficient blood has been withdrawn reduction is usually easy. If gangrene supervenes reduction is, of course, contraindicated, and treatment with antiseptic powders is in order. In prolapse, Esmarch's "rectal carrier" might be of service.—Medical Record.

Gallnut for Hemorrhoid.

The Medical Times for November cites Dr. Rogers S. Chera of Calcutta (Medical Age, Aug. 25, 1899) as saying that medical literature teems with modes and results of the surgical eradication of piles. He never performs an operation now, and never needs to, as there is a very simple remedy—so simple, indeed, that the profession refused to accept it, because it was unscientific. I also laughed at it at one time, but results brought the laugh against me. My tutor was an intellectual untitled fakir, who dropped into my surgery one morning as I was asking a man with a huge bunch of extremely painful and bleeding hemorrhoids whether he would submit to operation.

"Sir," said the fakir, "pardon my interference, will cutting away swelled veins alter the current of the blood permanently? That man is afraid of the knife. Let me whisper in your ear. Take a chota harra (the lesser gallnut); broil it as you would a coffee berry; then powder it, and mixing the powder with a little fresh butter, let the man apply it to the piles after each stool. If it fails to cure him may Allah send me to perdition."

Don't muddle this with the "unguentum gallæ" of the pharmacopeia. Reader, skeptic of results, I tried it. Eight applications cured the man, and to my surprise the first application stopped the bleeding entirely. Since then I have cured some hundreds of cases with the same thing.

OBSTETRICS AND PEDIATRICS.

Under the direction of FRANK B. EARLE, M. D., Professor of Obstetrics and Diseases of Children, Chicago Clinical School; Professor of Obstetrics, College of Physicians and Surgeons (Medical Department University of Illinois).

Ectopic Gestation.

Dunning (Am. Journal Obstetrics, Nov. '99) discusses the question "Shall the case be operated upon at or near term, the child being alive?"

He cites the tables of Ayres and Harris and reports five cases, a total of twenty-five cases all operated while the fetus was living, with a mortality of ten mothers. He is firm in the belief that the trend of opinion is decidedly in favor of operating while the fetus is viable, rather than waiting until after the fetus is dead.

(This question will doubtless engage the attention and discussion of operators for some time before a unanimous opinion is reached).

Determination of Sex.

Dunsmore (Northwestern Lancet) after investigating this subject carefully thinks that Thury's theory is the most rational one yet promulgated. Thury's theory is that sex depends on the maturity of the ovule at the time of impregnation, thus the most mature ovule, if impregnated, results in a male. Breeders adopt this theory and put it in practice with a reasonable degree of success.

Fractures and Other Injuries of the Child During Delivery.

Under this caption Dr. D. J. Doherty (Am. Gy. and Obs. Journal, Nov. 1899) calls attention to the frequency of injuries during parturition and points to the fact that breech presentations, either primary or secondary, furnish by far the greater percentage of these injuries. He reviews the observation of the best obstetricians from Smellie to date, and concludes that these accidents are in the majority of instances unavoidable. He also cautions the obstetrician against yielding to the importunities of the friends and interfering too early.

McFarlane (Glasgow Med. Jour., Sept. '99) describes four cases of missed labor in the same patient; the pregnancies being prolonged from two to ten weeks. In each case labor set in and a badly decomposed fetus was expelled.

Cavity in Lung of Infant Eleven Months Old.

M. Susset in Société Centrale de Médicine du Nord, May 12, 1899, reports the finding of a tubercular cavity in the apex of the lung of an infant eleven months old. He calls attention to the fact that in autopsies on a very large number of children this was the youngest in which this pathological condition was found.

Eclampsia.

In an analysis of 79 cases of eclampsia occurring in the Boston Lying-in Hospital Dr. F. S. Newell (Boston Med. and Surg. Jour., Nov. 9, 1899) states that 72.2 per cent were primigravida, a remarkably close relation to the observation of eminent European authorities. In his series of cases 40.5 per cent were antepartum, 27.8 per cent intrapartum and 31.7 per cent postpartum. Of the antepartum cases there was a mortality of 31.2 per cent; of the intrapartum, 27.2 per cent and of the postpar-

tum, 20 per cent. Of primiparæ 21 per cent ended fatally and of multiparæ 41 per cent. The number of convulsions in the fatal cases varied from one to forty-six. He deprecates the use of morphine and pilocarpine and strongly advocates the use of saline infusion and immediate emptying of the uterus.

Treatment of Pertussis.

November Pediatrics contains a review of the therapeutics of pertussis by Kaumheimer in which he reports bromoform as the most satisfactory agent in relieving the frequency and severity of the spasmodic seizures and shortening the duration of the disease. Dosage—one drop for each year of age given three and four times a day. It is best given in mucilaginous or syrupy mixtures and should always be prescribed by drops, as the fluid dram contains 480 drops, while the dram by weight, 160 drops. The susceptibility of patients varying, many cases of intoxication are reported, one fatal.

Cyanosis in Croup.

The following editorial paragraph appears in Pediatrics, Dec. 1, 1899: Many who have had but little experience in croup are too often misled as to the dangerous symptoms present, by the absence of cyanosis, thinking cyanosis to be the cardinal indication for operative interference. They seem to forget that the exhaustion incidental to drawing sufficient air through the narrowed chink of the glottis by means of the powerful auxiliary muscles of respiration, is of itself a serious menace to the life of the patient, whose heart is already enfeebled by toxins. The recessions of the supraclavicular and intercostal spaces and sub-sternal region are most important reasons for immediate intubation. Perhaps the generally most satisfactory sign for interference when in doubt is, as pointed out by O'Dwyer, incomplete aeration of the posterior portion of the lungs, as evidenced by greatly diminished or absent vesicular breathing.

Physiological Action of Diphtheria Antitoxine.

Brodie (Brit. Med. Jour., Nov. 4, '99) in discussing the physiological action of anti-toxine in diphtheria says (page 1283):

From these and other confirmatory experiments it is shown that the chief cause of death following within forty-eight hours of an injection is due to a failure of the blood vessels and consequent fall of blood pressure. Whether the failure is due to the action of the toxins on the muscular walls of the arteries or on the nerve centers or nerves is at present not decided; though so far as they go, the experiments show that the first is the true explanation.

The action on the blood vessels is further indicated by the rapid fall in temperature which is observed to take place during the few hours preceding the death of the animal.

PATHOLOGY, BACTERIOLOGY AND HYGIENE.

Under the direction of GEORGE H. WEAVER, M. D., Professor of Pathology and Bacteriology, Chicago Clinical School; Assistant Professor of Pathology, Rush Medical College.

Tuberculosis in Cows.

The history of a tuberculous herd of cows.

H. L. Russell (Bulletin No. 78, University of Wisconsin Agricultural Experiment Station) records some very interesting and valuable observations made upon a herd of tuberculous cows. In 1891 a farmer in one of the eastern counties of the state thought to increase the character of his herd of cattle and bought a few pure bred animals for this purpose. For three years these new animls were kept apart from the original herd and then all young animals were placed together and the mature animals were kept on one side of the barn. In 1895 some of the pure bred cows began to fail and in that and the following year two of them died of tuberculosis as shown by autopsy. The tuberculin test was now applied to the entire herd, with the result that thirteen out of sixteen of the ma-

ture animals were found tuberculous, and also three of the young stock. Russell thinks the disease was introduced in some of the pure-bred cows, as no such disease had occurred previously in the stock and the first cases developed in the new animals. The other animals were infected by contagion from these.

It was believed that to kill the infected animals and replace them by others would be more expensive than to restore the herd to a perfectly healthy condition by the following plan, which was put in operation: Separation of all the reacting from non-reacting animals was carried out by dividing the stable by a partition, pasturing the two sections in separate paddocks and watering in different tanks. The barn was thoroughly disinfected. From this time the two sections were kept entirely separate. The calves from the reacting herd were separated at birth from their mothers and fed thoroughly pasteurized milk of the reacting cows or the milk of non-reacting animals. Tuberculin tests were made at intervals from January, 1896, when the herd was divided, until February, 1899. In no case did an animal originally pronounced tuberculous fail to react to subsequent tests. In the individual animals the disease progressed. Every calf born during the time of observation had remained perfectly healthy. In the carrying out of this plan the natural increase of slightly diseased animals is preserved, while the disease is finally eradicated by the death of the diseased animals.

These observations are of interest as having an indirect bearing upon the means to be employed in preventing the dissemination of tuberculosis in man, and if measures could be as thoroughly and intelligently carried out in the case of human tuberculosis, as brilliant results could be confidently predicted.

Sarcoma of the Tongue.

Two cases of primary sarcoma of the tongue—one pedunculated, the other interstitial:

Walter Downie (Brit. Med. Jour., Oct. 21, 1899, p. 1065) reports two cases of primary sarcoma of the tongue, the most interesting one being of the pedunculated form and the sixth of this variety on record. The case occurred in a mechanic of 34 years of age. Five weeks before coming under observation his throat became sore and a week later his doctor, while examining his throat, discovered a swelling over the posterior aspect of the tongue. During the succeeding weeks there was more or less pain and difficulty in swallowing, with exacerbations and remissions. Five weeks from the first symptoms Downie examined the patient and found the following condition: A tumor, having the appearance of a smooth swelling, on the left side of the dorsum of the tongue, somewhat larger than a walnut and of a color similar to that of the palate. The tumor was firmly attached to the tongue, but the area of attachment was only one-half of the circumference of the growth half an inch from the tongue. It was pedunculated and freely movable in all directions. There was no glandular enlargement. The tumor was removed together with the portion of the tongue from which it sprang. Microscopically the tumor was a spindle-celled sarcoma. Some of the points in common in the recorded cases of pedunculated sarcoma are very rapid growth, usually a few weeks or months; non-involvement of the glands; and non-recurrence after removal.

Bacteria in Cystitis.

The relation of bacillus coli communis to other organisms in the urine:

J. L. Maxwell and W. Bruce Clarke (Brit. Med. Jour., Nov. 25, 1899, p. 1472) report the results of the bacteriologic examination of eight cases of cystitis with brief clinical histories of each. The results seem to bear out the former statement of Clarke that the findings in cystitis are probably dependent upon the stage of the cystitis at which the observations are made, and that in cases where staphylococci and streptococci are at first present they may disappear and be replaced later by the colon bacillus.

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